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GUIDELINES FOR PUBLICATION

1) All articles intended for publication should be submitted to the editors before the deadline which is usually six weeks before the release of the Journal
2) Submitted articles should be typed (or legibly printed) double-spaced, single sided on paper 8½" x 11" (letter size) and they should not be more than 15 to 20 pages (3000 to 4000 words)
3) Illustrations, graphs diagrams and figures should be put on a separate sheet and identified by Arabic numerals A list of explanatory legends for all the figures and diagrams should be put on another sheet Do not write on the back of photographs
4) References should be checked with the original sources, designated by Arabic numerals in the text, numbered in order of appearance and put on a separate sheet Each periodical reference should include in order the author's name and initials, title of the article, Journal name, volume number, page number and year (eg . 1 Rosen HJ Lumbar intervertebral disc surgery review of 300 cases *Can Med Assoc J 101 317. 1969*)
5) The editors reserve the right to make such editorial changes as are deemed necessary to ensure correctness of grammar and spelling, clarification of statements and conformity to Journal style
6) Acceptance for publication is subject to the understanding that such material is submitted solely to the Journal and will not be reprinted without the consent of both the editors and author

The Medical Student in Perspective

Elliott Weiss 8T2
Howard Rudner 8T2
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There are many issues and areas of concern that relate to medical students. Their perceptions of the education they receive, their emotional and mental health and concerns related to lifestyle are all important considerations. By developing a perspective of medical students, an attempt was made to define and clarify characteristics common to medical students today.

The individuals that make up a class of medical students are a heterogeneous group, coming from varying backgrounds and life experiences. However, because all members of this group are heading in the same general career direction, they may have many characteristics in common. Moreover, as students progress through their medical training, they may all change in similar ways (i.e., through their attitudes, lifestyles and expectations). It may then be possible to define who medical students are as a group, and examine them in some depth.

The desire to study medical students and develop a multi-dimensional perspective of them goes beyond simple curiosity. It may be of value to all levels of a medical school. Medical school administrators, professors, clinicians and students can all benefit from a study that makes more explicit certain common characteristics of the student today.

There have been many studies of medical students reported in the literature. As examples, there have been investigations on the attrition rate of students attending medical school, sutdents' career expectations, and how students are best evaluated. Yet other dimensions of medical students may also be of interest. For example, a student's present lifestyle and study habits as well as his childhood and adolescence are all important areas of consideration. Do all medical students share the same priorities in life, or if not, how do they differ? Do all students suffer from panic attacks around exam time? Do they ever consider dropping out of school?

Method

A study was conducted at the University of Toronto of the 1st, 2nd and 3rd-year medical classes that explored student's lifestyles, self-concepts, emotional health and views toward medical education. A 70-question survey was distributed to the students in each of the three years. There were three versions to the student-designed questionnaire drawn from a pool of 170 questions. Selected questions were repeated in each survey. The various forms of the survey were distributed at random to students and participation was voluntary.

Results & Discussion: Part I: Identifying Data

The response rates for the 1st, 2nd and 3rd-year classes were 69%, 53% and 69% respectively. (The size of each medical class is approximately 252 students.) The following is a summary of the identifying data:

(a) Approximately 30% of all respondents from the three years were 24 years of age or older; less than 4% were 30 or older.

(b) Over the three years, males made up 66% of all respondents. However, this may not reflect the actual proportion of males in each class.

(c) A significant increase in the number of married students was seen in Year 3, with 21% of respondents married and 61% single and unattached, compared to 15% and 74%, respectfully, in Years 1 and 2 combined.

(d) Half of those married had wed within the past two years. Fewer than 5% of married students have children.

(e) About 20% of students had, at one time, left university for at least 12 months prior to entering medical school.

(f) Students with family members and/or relatives as physicians or medical students made up 36% of all respondents. Of the students from physician-families, 20% had a sibling, 18% one parent, 40% an uncle/aunt/cousin, and 22% had more than one relative, as a member(s) of the medical profession.

Part II: Attitudes Towards Medical Education

How satisfied are students with their learning experience in medicine? Do they enjoy medical school and do they feel their education will train them adequately to practice medicine in the future? Are the present methods of evaluating students a good measure of a student's knowledge and ability? By considering these questions, the attitudes students have towards the education they receive can be investigated. The answers may reflect the overall quality and effectiveness of the learning process in medical school, and may also provide some insight into what the needs and concerns of students are, both as medical students and as future physicians.

(a) The Learning Experience

One may assume that an analytical approach to disease processes is essential to present and future success in medicine. However, with a medical curriculum filled to capacity, there is often little time for students to grasp even the more basic concepts. In fact, only 10% of the 3rd-year respondents strongly agreed that medical school has taught them this type of approach to medicine while 25% strongly believed the opposite.

In Years 1 and 2, where there is greater emphasis on basic science instruction, the majority of students were satisfied with the relative balance of

lectures, seminars and labs. Second-year students considered labs the least useful investment of a student's time (65%). Students in their 3rd year of medicine see clinics as the most useful of their learning experiences, and over 70% reported that they would prefer lecture material in clinical courses to be presented to the student before the beginning of clinics. They also responded that there is an excessive number of lectures in their year.

It may be said that ideally, undergraduate medical education should inspire students to learn and investigate material on their own. While students are generally taught the most up-to-date concepts in medicine, unless they read the medical literature, it is easy for their knowledge to become obsolete. As well, since continuing education is vital to the practice of medicine, the development of good reading habits is important in one's training. Yet 47% of 3rd-year students rarely or never read medical journals, and only 16% are regular readers. As expected, students reported that the level of comprehension increased with a student's progress in medical school, but only half of the 3rd year journal readers found the content of their journals "easy to follow". If medical students are encouraged early in their studies to read the literature though, they may develop reading habits that will be of benefit to them in years to come.[1]

A critical approach to journal reading is a valuable skill. The use of seminars to teach residents how to read and interpret medical articles has had favourable effects on comprehension.[2] Thus a student's undergraduate education should not be limited to textbooks or syllabus notes; rather a student should actively encouraged to critically read the medical literature. It is unfortunate that so many students treat journal reading so lightly.

Obviously, there are many other issues relevant to the discussion of the quality of medical education. Those dealing with the educational process have been dealt with elsewhere.[3 4 5 6] Other issues include complaints that students are too mark-oriented, and that medical schools are admitting the wrong types of students into medicine. With regard to student attitudes toward their learning experience, however, it is clear that students are not completely satisfied with the medical education they receive.

(b) Level of Satisfaction

It is difficult to define precisely the extent of student satisfaction with their learning experience. If a student has doubts about continuing in medical school, this may suggest that he is highly dissatisfied and discontented. It was found that 20%, 25% and 34% of 1st, 2nd and 3rd-year respondents, respectively, considered dropping out of medical school some time in the past. Forty-five percent of these students cited disillusionment with medicine as the main cause for these feelings, while 32% thought that academic demands were the most important source of dissatisfaction.

While only a few students actually drop out of medical school, it is disturbing that so many students strongly question their career choices. A recent report suggests that, although academic demands remain a major cause of medical school attrition, an increasing number of students are dropping out for psychiatric reasons.[7]

(c) Evaluation of Students

Whispers of "All I want to do is pass!" can be heard in the halls of the Medical Sciences Building. This apparent concern for only the minimally acceptable level of academic achievement is demonstrated in the survey results, for less than 10% of students subscribe to the belief that academic performance is a good indicator of future performance in the practice of medicine. Studies conducted in the past have shown little or no correlation between present academic and future clinical performance in medicine.[8] However, a recent investigation did demonstrate a significant relationship between pre- and post-graduate levels of success when knowledge, data-gathering skills, clinical judgement and professional attitudes were examined.[9] The relationship was clearest at the upper and lower performance levels.

Students were asked what types of examinations they prefer most and least. Results of the survey indicate that:

1. The examination most desired was one with multiple-choice questions (56%) but 33% favoured exams with short answers.
2. Over 60% of students considered essay questions least desirable as compared with 33% who viewed multiple-choice questions as least desirable.

Students are in obvious conflict with regard to exam question preferences. They may prefer an examination that is easy to pass, yet they also want it to be a good measure of their ability and knowledge. The use of multiple-choice questions with only one correct response has been shown to be a more reliable measure of knowledge than questions where the students must pick a combination of correct answers.[10] The latter type offers a higher degree of "cueing", where certain answer-choice combinations are eliminated by the form of the question. These questions tend to inflate test scores and lower reliability, because the correctness of an answer is aided by the question's structure. It is worth noting that multiple-choice questions require students to recognize, and not to produce, the correct answers.

The use of an examination format that makes use of three types of examination questions can be an effective form of student evaluation. An examination with multiple-choice, practical (short answer) and short essay (long answer) questions as used by the Department of Pathology at the UofT for 2nd year medical students has been shown to be a valid measure of a student's knowledge.[11] However, it is a more demanding examination, requiring more thorough knowledge and a more complete understanding of course material than other examination formats.

The type of examination that might presumably produce the most valid assessment of a student's clinical competence is the "oral exam" which is used increasingly in the later years of medical school. However, only 20% of 3rd-year students consider this type of examination a good measure of a student's ability, skills and knowledge while 30% thought it to be poor. It may be that there is a lack of evaluation standards specific to the students in the different medical years. The existence of guidelines to define the minimum level of performance expected from a student, based on his expected knowledge and experience at each level of training in medicine, are obviously needed. As well, orals might be improved by eliminating inconsistent examiners and establishing a standardized rating system.[12] While oral exams measure a student's knowledge and clinical skills, a recent study concluded that: "The evaluation of clinical competence based on the student case presentation can be significantly influenced by the personal characteristics of the students and that faculty members do not appear to share common standards for evaluation (of) case presentations."[13] While it is unlikely that oral exams can be a totally objective way of examining students, it is clear that measures can be taken to reduce inconsistencies and individual biases.

(d) Student Satisfaction With the Faculty

The interaction between a medical school's administration and its students is worthy of consideration as the level of student satisfaction may be reflected by the relationship between students and Faculty. When students were asked if they thought that the Faculty was responsive to their personal and/or professional concerns and needs, 46% of respondents over the 3 years did not

believe so. The proportion of students who did believe the Faculty was responsive declined from 33% in Year 1 to 14% in Year 3. As well, only 14% of 3rd-year students felt that course coordinators were responsive to the complaints, suggestions and needs of students, while 48% strongly disagreed. Whether there is a need for concern here is unclear, but a significant proportion of medical students are not satisfied with the level of Faculty responsiveness to their needs.

(e) Summary

The attitudes medical students have toward the education they receive are mixed, and in some cases, in conflict with each other. Students have many concerns, including those centered on how they are taught and evaluated. Their personal level of satisfaction in medical school, and how satisfied they are with the Faculty, are also areas of importance. How students perceive their medical education, then, is an important issue to consider, and worthy of much more investigation.

Part III: Emotional & Mental Health

In the past decade, the emotional and mental health of medical students has become a major focus of interest and concern for medical authorities. Why should there be such interest and concern? Historically, it was evident to many that medicine as a career, though rewarding and fulfilling, brought with it some perils as well: alcoholism, drug abuse, depression, suicide and marital discord — the statistics are alarming. These various illnesses were commonly attributed to the pressures and strains of being a physician — i.e., enormous professional demands, availability of drugs, overwork and physician responsibility, and the long medical training. However, empirical research suggests that the presence or absence of psychiatric illness in physicians is strongly correlated with life adjustments prior to medical school, including family history, personal development and personality traits.[1] Thus were born the "susceptible personality" theory and the "bent twig" hypothesis.[2]

The question then logically arose — was becoming a physician, in addition to practising medicine, a "hazard to one's health"?[3] Evidence of significant psychiatric disturbance has been found in 10-15% of medical students.[4] [5] Others have found it exceedingly common (almost a 20% incidence) for medical students to seek help from the psychiatric student health services during their undergraduate careers.[6] [7] [8] Twenty-five percent of medical students are estimated to use alcohol or marijuana on a regular basis, and "the use of tranquilizers, sedatives and amphetamines at exam time is widespread".[3] The tendency toward self-medication by doctors is said to begin in medical school and to be particularly marked during internship and residency.[5]

Table 1: Feeling Often Experienced

	Year 1	Year 2	Year 3
Self-doubt	19%	19%	33%
Inferiority	13%	8%	34%
Professional inadequacy	9%	13%	28%
Frustration/aggression	11%	15%	28%

Medical school can be a time of unique stress. The characteristic state of the individual medical student has been described as one of anxiety.[9] In addition to the strenuous intellectual demands, even the well-adjusted student experiences a series of highly stressful situations which are capable of producing considerable anxiety and conflict. Indeed, failure and dropping out of medical school is more often correlated with emotional stress than with lack of intellectual ability.[10] [11] Some of these stresses include grade consciousness, cadavar dissection, the initial exposure to disease and death, the first physical examination, and the realization of the lack of therapeutic omnipotence.[8]

Anticipated sources of stress are equally important among medical students. Previous studies have found these to be related not to social adaptation but to professional inadequacy.[5] [12] [13] In one survey of 1st year University of Toronto medical students, the most salient anticipated sources of stress dealt with patient death, chronic illness or diagnostic error.[13] Far less concern was expressed over performing physical examinations or talking with patients about marital or sexual problems. Probably related to the anticipated stresses of professional adequacy were the current highly stressful academic factors, such as fear of failure to absorb all course material, final examinations and grades. Also noted was an interaction between academic and social sources of stress — there is obviously little time for socialization when one has to spend long hours studying.

Considering then, the importance and topical nature of this subject, the present section of this study was undertaken to examine certain aspects of the mental health of students in their first three years of medical school at the UofT. The results will be explored in some detail under four major headings: (a) psychosocial history; (b) self-concept; (c) stress and anxiety; (d) drugs and alcohol.

(a) Psychosocial History

A major interest area was the incidence and nature of psychiatric illness in this population. From the 142 respondents that were questioned about this, only one reported having been admitted to hospital for a psychiatric disorder (anxiety reaction in childhood/adolescence). However, 26 of 466 students (5.6%) at some time in medical school had sought clinical psychological or psychiatric services. The majority did so due to anxiety directly related to school (e.g., exams), or for life events unrelated or indirectly related to school (e.g., romantic, marital, social difficulties, death or illness). The incidence in this sample appears lower than the 10-20% reported in other studies.[6] [7] [8] The UofT students sampled might be healthier or more able to deal effectively with their anxiety. Alternatively, those who are indeed clinically anxious may not have chosen to seek professional help, or even to respond in the survey (for any number of reasons). Finally, a student may be apprehensive about responding honestly to a question of this nature.

With regard to childhood and early parent-child relationships, about two-thirds of the students enjoyed "excellent" physical health in their childhood. Mother-child relations were described by 53-60% (among the 3 years) as "warm, encouraging, and conducive to self-autonomy and esteem" (compared with 39-47% of the father-child relations). In contrast, only 9% or less found their relationship with their mother to be closer to "overprotective, cold, pushing, indifferent and discouraging"; 6-20% reported so for their fathers. Finally, 44-59% described their home atmosphere while growing up as "warm and cohesive", while 13% or less noted it as being closer to "cold and chaotic".

The quality of childhood has been found to be strongly associated with poor marriages and excessive drug use by

Table 2: Students Relationship With Parents

	A	B	C	D	E
Year 1 (N = 170)	50%	31%	13%	4%	2%
Year 2 (N = 131)	46%	33%	13%	6%	2%
Year 3 (N = 169)	41%	35%	16%	7%	1%

A = intimate, few or no conflicts
B = intimate, some conflicts
C = distant, few or no conflicts
D = distant, some conflicts
E = a lot of conflict

physicians.[14] These physicians tended to have parents who were overprotective, and/or had an unhappy childhood. The implication was that some doctors, because of either feelings of inferiority or a need to gain comfort and strength from appreciative parents, may elect to assume direct care of patients and give others the care they did not receive in their childhood. Indeed, the long hours, demanding patients, and ready access to narcotics did not pose a problem to the physician whose childhood had been happy; the doctors who did seem to get into trouble were those who asked more of themselves than they had been given in their childhood.

(b) Self-Concept

Related to emotional well-being is, of course, how a student feels generally or sees himself at this point in his medical education. When asked to compare themselves now with the way they were before entering medical school, 56% in 1st Year, 33% in 2nd Year, and only 21% in 3rd Year felt that they are emotionally the same person now as then. In their second and third year of medicine, students reported a greater feeling of stability in general, suggesting that students undergo and emotional change culminating in a more stable personality. It is quite likely that as students approach graduation, they begin a rapid transition from 'late adolescent-student' to 'adult-doctor', and gain stability through this self-image maturation process.

Although this was a change "in general", there was also strong evidence of changes occurring in specific areas of self-concept. Uniformly among the 3 years, the occasional student acknowledged experiencing certain feelings often — for example, "hopelessness" (8-14%), "passivity" (9-10%), "pessimism" (13-15%), and "panic attacks" (4-13%). However, distinct differences, both in frequency and between the years, were noted in several crucial areas, as seen in Table 1. These four feelings became dramatically more prevalent in 3rd Year. Perhaps this is a result of a change in the focus of the 3rd-year medical curriculum, as the emphasis becomes almost entirely clinical.

What would students do if they could not complete medical school for any reason? For all three years, 27-34% would have a "viable satisfactory alternative to turn to", 20-29% would "find another profession", 13-20% would "take off a few months or longer", and only 2-7% would "find a job". Evidently, most are prepared to continue in a professional program or some alternative activity. Very few seem 'turned on' to looking for a job.

(c) Stress & Anxiety

Stress may be perhaps the single most important factor in student failure, dropping-out, and emotional illness. What specific facets in the process of medical education create the greatest stresses and anxiety for students?

As found by Coburn and Jovaises in their study of 1st-year UofT medical students, the greatest stresses across all years in the present sample were caused by academic, not social, factors.[13] Thus 53-66% felt that final examinations caused the greatest stress, and 50-56% felt that an inability to absorb all course material caused "some stress". Regarding time available for the amount of material one was expected to know, 36-41% of students in their first and second years found this to cause "great stress", as opposed to only 18% in 3rd year; however, 68% in 3rd year still reported it to cause "some stress"! On the other hand, only 4-10% and 8-18% of respondents found a lack of sexual outlets and loneliness, respectively, to be a cause of "great stress".

With regard to the specific process of medical education and related professional adequacy, 80% or more in each year have "rarely or never" experienced anxiety towards cadaver dissection, and 75% or more have "rarely or never" experienced anxiety towards contracting a disease in the hospital. Talking to patients about marital/sexual problems would cause "extreme stress" in 40-42% of the respondents. Also, 32% in 2nd year, and 42% in each of 1st and 3rd year, would find carrying out a physical examination with patients of the opposite sex to be of "little stress", versus 57-68% across all years who would find "little or no stress", in examining patients of the same sex. Finally, 83% or more anticipated "some or great stress" regarding the death of a patient, 88% or more regarding fear of error in diagnosis or treatment, and only 13% or less with regard to dealing with a patient afflicted by a chronic disease with no satisfactory treatment. It should be noted that a student feeling stress in one area may or may not feel stress concerning other facets of life as a medical student; i.e., several sources of stress can be distinct and independent.

Considering that academic factors were the greatest sources of stress across all years, it was interesting to find that, when students were asked how they might feel about spending time or undertaking interests outside medical school, 20% in 1st year responded that they would feel guilty for not studying, compared with 10% in 2nd year, and 4% in 3rd year. Thus it seems that less guilt is experienced as one proceeds in one's medical training. This could reflect either the structure of the medical curriculum, a feeling of confidence in one's abilities, or a combination of these. In any case, students in later years do seem less anxious about school compared to students just beginning their medical education.

Social factors of stress, although second to academic ones, still presented as an important concern. Fourteen to 20% of respondents have found it often difficult to establish or maintain friendships with classmates, or to maintain friendships with others not in medicine. On the average, 25% found it especially difficult to establish friendships with non-medical students.

One may assume that making or keeping friends in medicine is related to how one perceives other medical students — 50-58% perceive others as "more aggressive" than themselves, 92-98% as "less friendly" than themselves, and 18-20% as "more happy" than themselves. Thus generally, one sees a fellow medical student as being more aggressive, less friendly and less unhappy than oneself. Another popular

source of social stress is the keen competition among medical students. To his dismay, Waring noted that excessive destructive competition led to cheating and to vandalism in libraries in many medical schools.[1] Happily, this does not appear to be the case at the UofT. Across all years, 87-100% have never cheated on an exam or vandalized a lab or library book.

What effect does all this stress have on the UofT medical student, not only during final examinations but also throughout the school year? The difficulty experienced by most respondents (65-76%) during the school year is "tiredness and easy fatigu-ability", with "trouble sleeping" running second (42%) in 3rd year. During and around exam time, one-half to two-thirds of all years most often experience "irritability/tension" and "difficulty sleeping", while only 9-15% experience "anxiety or panic attacks" (i.e., trembling, shakiness) most often.

Another well-recognized stress response in medical students is hypochondriasis ("medical students' disease") or somatization of their anxieties.[8] This phenomenon apparently occurs in practically every medical student, but is particularly common during the study of Pathology in second year. It also commonly occurs during periods of general emotional turmoil in the student's academic and personal life. Most students attempt to allay their anxiety through intensive study of the disease in question, or by direct or covert consultation with their instructors. A similar response was noted in the present survey, but there were striking differences among the three years. Regarding the actual hypochondriasis, 74% in 3rd year, having studied a certain disease, "sometimes or often" thought that they had some of the symptoms, compared to 46% in 2nd year, and only 17% in 1st year (where Pathology has not yet been studied). Of the 74% of 3rd-year respondents who frequently think they have disease symptoms, about half (48%) responded that this would have no effect on their studying the disease; the majority of the same group in 2nd year (68%), on the other hand, would want to learn more about the disorder.

Does the stress of medical school, as described above, ever arouse feelings of doubt or regret about one's choice of medicine as a career? Most (60-68%) of 1st and 2nd-year respondents "rarely or never" question or second-guess themselves about their career choice, compared to 38% of 3rd year who rarely do. Moreover, consistent with their feelings of self-doubt and frustration, 28% of 3rd year "often and regularly" do so! Thus, have medical students, by their third year become disillusioned with medicine, or are they simply overwhelmed and discouraged as a result of all the pressures and anxiety bombarding them during their education? As PART II of this article series has documented, the former explanation seems to hold true.

(d) Drugs & Alcohol

Addiction to, and/or abuse of, drugs and alcohol among medical students is not an uncommon finding in other studies. With regard to intake of drugs at some time during university, 11% of the 1st-year, none of 2nd-year and 7% of 3rd-year respondents had taken *both* stimulants and sedatives, mostly "only once to see what it was like". Across all years, 78-93% had never tried either of them. Interestingly, only 1-2% of all respondents have *often* been prescribed drugs for "anxiety" during university; about 90% in 1st and 2nd year and 64% in 3rd-year *never* have been. At first glance, it appears that many students in year 3 have received medication for "anxiety". However, another 30% in the same year have *rarely* been prescribed drugs for this reason.

Regarding the drinking of alcohol, 90-100% of all respondents described their intake as either "minimal" (64-74%) or "moderate" (26-36%)). Two out of 140 students described it as an addiction. However, following examinations (a period regarded generally as a "time to let loose"), up to 10% in each year take in excessive (greater than normal) alcohol *always*, while 40-57% *never* do. Thus, it seems that most UofT medical students, as a rule, are very conservative with regard to their alcohol habit, but that during a time to "let loose", some indulge in excessive drinking (perhaps to release their anxieties). Interestingly enough, the figure popularly quoted for the percentage of practicing Ontario physicians abusing alcohol regularly is also about 10%.

(e) Summary

This study was not simply an attempt to draw a profile of today's medical students — that has already been excellently accomplished by Myckatyn and Miles at the UBC.[15] Rather, we tried to build on this by examining a large group of medical students vis-a-vis: their emotional health, past and present; their self-concepts, both as physicians -to-be and as young adults; their areas of stress and anxiety; and finally, the role drugs and alcohol play in their lives in terms of abuse and addiction.

We do not have all the answers, for many more questions were never asked. Our hope is simply that by bringing together and sharing this type of information with fellow medical students and physicians, they might develop a greater appreciation of the importance of not only pursuing academic excellence but also developing a psychosocial awareness of the process towards becoming (and being) a physician.

Part IV: Lifestyle Issues

Is it the responsibility of the student or the medical school to ensure that graduating physicians are not only competent but also happy, well-balanced and enthusiastic? To ask this question implies that perhaps students are not as content or satisfied with themselves as they would like to be, either personally or professionally. To explore this area further, medical students may be studied both when they first enter medical school, as well as later on in their studies. How students view themselves can be explored by examining their priorities in life, relationships with others, and their lifestyles.

Many previous studies on medical students have focused on the influence medical school has had on its students. Edwards and Zimet found that the chief concerns of medical students attending the University of Colorado were lack of personal freedom, excessive academic pressures, and feelings of dehumanization.[1] As well, students experienced increasing doubts about their chosen profession from years 1 to 4. It was felt that the Faculty was out of touch with their students' needs and attitudes, and that a dissonance existed in the school's academic program — students were being taught to worry about the problems the sick face but to ignore the ones that they themselves may encounter. Meanwhile, Freidson states "... the behaviour of students and doctors is influenced more by characteristics of specific settings and situations than by strongly held beliefs or values."[2] Clearly, medical school and post-graduate training have very significant effects upon lifestyle, priorities and work habits. We must ask whether it is appropriate for a medical school to strongly influence their students in these ways. Investigators at University of Aberdeen found that medical students believed that "... learning to cope with stress was an important ingredient in the training of a doctor."[3] Perhaps coping with stress is one area that a medical school should actively teach students. Nevertheless, how much influence should a medical school have over the lives of the students it teaches?

In this section of the *Medical Student in Perspective*, four general areas were

Table 3: Effects Studying Medicine Has On The Quality Of Relationships

	Year 1		Year 2		Year 3	
	A	B	A	B	A	B
Parents & Family	93%	7%	90%	10%	90%	10%
Spouse & Children	67%	33%	77%	23%	79%	21%
Boy/Girlfriend	60%	40%	57%	43%	59%	41%
Friends	72%	28%	61%	39%	63%	37%
People you would Like To Date	69%	31%	56%	44%	71%	29%

A = very or moderately beneficial effect on relationship, or no effect at all

B = moderately or very detrimental effect on relationship

explored: interpersonal relationships — with family, friends and other important people in a student's life; the priorities in one's life, both personally and professionally; a student's work and study habits, and career goal anxieties; and finance, housing and nutrition.

(a) Interpersonal Relationships

Knowing the quality of the relationships we have with people important to us can be both revealing and enlightening. With reference to a student's relationship with his (or her) parents or guardians, 75% of respondents across all 3 years reported having an intimate relationship with their parents (Table 2). The majority of students surveyed, reported that when conflicts arose with their parents, it was more likely because of the student's personal beliefs and values (63%) and not his personal activities (23%).

While fewer students in 3rd year reside with their parents than students in the two earlier years (see section d), the amount of contact a student has with his parents is not a function of whether he lives with them or not. Of those students who do not live in their parents' home, 85% maintain a "moderate" to "great degree" of contact with their parents. However, one factor not taken into consideration is where a student's parents reside. For most students, attending medical school has almost no detrimental affects on a student's relations with his family (Table 3). However, this does not appear to be the case with other relationships, where students report that being a medical student does adversely affect their relationship with others. Whether university students in other academic programs experience the same problems with relationships, is not known. The number of hours a medical student spends studying was not found to related to the quality of parent-child interactions. It is quite possible that parents are very understanding of the demands that medical school makes on their children. As well, a student's relationship with friends can in no way compare with the level of parent-child bonding that may exist in most families. The latter relationship would thus be less likely to be affected by a student's studies in medicine.

With regard to friendships, 81% of all respondents were satisfied with both the quality and extent of present friendships. Most of these relationships were with university students or graduates (94%). Interestingly, of the 19% of students who reported that they had few friends, over three-quarters felt guilty when they took off time to pursue non-academic interests. A small but significant minority of students (18%) responded that they were "moderately" or "very" dissatisfied with their present friendships.

When the focus switched to romantic relationships, 32%, 50% and 78% of the 1st, 2nd and 3rd-year students, respectively, were romantically involved at the time of the survey. Of this group, one-third were involved with students studying or working in the health sciences. Over 90% of those students presently involved in a relationship, found it to be "moderately" or "very" satisfying. Of all respondents to the question, over two-thirds reported being satisfied with both the quality and extent of their romantic relationships to date. Only one-quarter of male medical students who were romantically "satisfied", second-guessed themselves about a career in medicine, compared to one-half of the "satisfied" females. No such relationship was found for the group of unsatisfied male or female students. Of the 30% of females who reported studying greater than 30 hours per week, over 80% of them felt that being a medical student was detrimental to dating, compared to less than 65% of the same group of males. Of the students who reported they were not involved in a romantic relationship at the time of the survey, between 40% and 60% responded that they "had not met the 'right' person yet." Other reasons for lack of romantic involvements included being "too busy" and "not (being) interested at the present time". Results such as these are more than just interesting. They reinforce the fact that a student's personal life is clearly influenced by one's academic activities and attitudes (and vice versa).

(b) Priorities

The degree of importance one gives to an activity such as jogging is a good measure of how valuable being physically fit is to the individual. Similarly, when a number of lifestyle items are ranked by students, a profile of their priorities in life can be obtained. Table 4 provides some insight into this area by examining students' present priorities. A ranking of 4.0 implies that all students consider this a top priority while a ranking of 1.0 is suggestive of having the lowest priority amongst students.

There are many similarities amongst the 3 years but some subtle differences do exist. For example, in 1st year, friends are less important to students than in the other years while doing well in school is of more value. Third-year students consider one's family life, romantic experiences and sexual involvements as being more important than the same variables in the two earlier years.

Because so much of a student's time revolves around medical school, it is worth considering how involved he or she is in non-academic activities of medical students, such as athletics, clubs, Daffydil, Open House, pubs and the Medical Society. Generally, students in their 3rd year tended to be more involved than those in 1st or 2nd year. For all respondents, student involvement was highest in athletics and social activities (i.e., pubs), as expected.

(c) Work, Study & Career Goal Anxieties

How relevant are student's work activities to their future career plans? Most students chose their previous summer experience because it was interesting, financially rewarding or a

Table 4: Student's Life Priorities

	Year 1 (n = 56)	Year 2 (n = 32)	Year 3 (n = 54)
1. Emotional well-being	3.35	3.21	3.36
2. Having friends	3.06	3.21	3.13
3. Doing well in medical school	3.15	3.17	3.00
4. Enjoying medical school	3.28	3.07	2.94
5. Physical health	2.79	3.07	2.78
6. Family life	2.65	2.54	2.81
7. Being respected by colleagues or peers	2.60	2.57	2.33
8. Romantic involvement	2.23	2.28	2.62
9. Involvement in new experiences (i.e., travelling)	1.91	2.32	2.14
10. Sexual involvement	1.65	1.71	1.96
11. Religious faith	1.96	1.75	1.51
12. Community-related activities	1.44	1.29	1.29
13. Material assets	1.17	1.29	1.40

The maximum and minimum scores possible are 4.0 and 1.0, respectively, with a median score of 2.39.

useful learning experience (87%). More students tended to do either clinical medicine or take the summer "off" between their 2nd and 3rd year of medicine (58%), than did students earlier in their medical education (21%). Between 11 and 18% of all respondents were "moderately" or "very" dissatisfied with their past summer experience.

The attitudes and habits that students have toward studying may reflect a student's desire to learn, as well as his anxiety levels in medical school. With regard to the number of hours a student spends studying, no significant differences were seen between male and female respondents (Table 5). However, a smaller proportion of 3rd year repondents studied 30 or more hours per week, than did students in 1st or 2nd year. This may reflect the fact that students in their first two years of medicine had mid-term examinations around the time the survey was distributed.

The number of hours a student studied showed no relation to their response to the question: "Do you think that academic performance is a good indicator of future performance in the practice of medicine?" When students were asked how much satisfaction they got from studying, the most striking result was that 21% of 3rd-year respondents neither enjoy nor derive a sense of purpose and direction from studying (Table 6). The amount of time students spend studying was not found to be related to their perceived enjoyment or sense of purpose in studying.

It was not surprising that 3rd-year students experienced higher levels of career goal anxiety than 1st or 2nd-year respondents (45, 41 and 69% in years 1 through 3 respectively), since they are closest to graduation. Only one-third of female 3rd-year students felt "little or no" career anxiety compared to one-half of their male counterparts. Finally, a student's involvement in research and clinical work during the summer months did not appear to alleviate anxiety levels in either sex.

Table 5: "On the average, how many hours per week do you spend studying or doing homework (excluding classes)?"

Hours/week	Year 1 %	Year 2 %	Year 3 %	% TOTAL M	% F
< 10	1	3	5	3.1	2.0
10 -20	16	19	35	24.8	22.1
20 -30	40	33	38	33.1	45.6
30 - 40	33	35	17	30.0	24.2
> 40	10	10	5	9.0	6.1

(d) Finances, Housing & Nutrition

One practical issue that all university students must deal with revolves around how students support themselves financially. These concerns may be of greater significance to students studying medicine than most other university students as the former have higher tuition fees and a shorter summer period to work. Thus, medical school is an expensive proposition and may place excessive financial strains on students. It was found that between 27% and 40% of respondents rely on parents and other relatives for most of their financial support. In year 3, loans contributed more (34%), and personal income and assets less (23%), to a student's overall financial picture than for a student in 1st year.

For students in years 1 through 3, 37%, 43% and 31%, respectively, resided in their parent's home. Presumably, these students pay little or no rent. Of the remaining students, the majority responded that they are paying in excess of $200.00 per month in rent. In both 2nd and 3rd year, 19% of respondents were "moderately" or "very" dissatisfied with their present living arrangements compared to 8% in year 1. Similarly, many students felt that their present standard of living was either "somewhat" or "very much below" that to which they are accustomed. (34% in year 1, 37% in year 2 and 36% in year 3).

Being in a health profession, one might expect medical students to be conscientious about their nutritional status. When asked to describe their present dietary habits, 68% of students responded that they consume at least a "reasonably well-balanced" diet (57% - year 1; 85% - year 2; 67% - year 3). However, of the students who state they do not regularly eat well, "insufficient time and/or motivation" were cited as the major causative factors.

(e) Summary

One of the major conflicts medical students are constantly faced with is how to combine the life of a physician-in-training with that of a young adult. Because the desire to be professionally competent is a clear priority in medicine, students are forced to make adjustments in their lifestyles and priorities.

Table 6: "In medical school, I have found studying on the whole to be:

a) enjoyable, with a sense of purpose and direction."
b) enjoyable, but without much sense of purpose and direction."
c) not so enjoyable, but with a sense of purpose and direction."
d) neither enjoyable nor having a sense of purpose and direction."

	Year 1 %	Year 2 %	Year 3 %
a)	31	16	25
b)	6	11	11
c)	55	64	43
d)	8	9	21

Individuals have to develop a balance between their academic and personal lives, and how they do this is clearly flavoured by an unlimited number of factors. Perhaps knowing they have a secure future ahead of them, medical students may not be apprehensive about making lifestyle adjustments, suggesting that the sacrifices they make now will be worth the rewards they reap tomorrow. □

Acknowledgements

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Anaesthesia In Neurosurgery

Vladimir Wally Shishkov 8T1

This article reviews the basic aspects of neurosurgical anaesthesia. First, the normal factors governing intracranial pressure (ICP) are presented. This is followed by a description of how these factors can become deranged by central nervous system (CNS) pathology and contribute to raised intracranial pressure (RICP). In this section, the general ways in which the anaesthetist can control brain homeostasis throughout the operation are also considered. Finally, the commoner drugs used in general anaesthesia are examined critically according to their intracranial effects.

Neuroanesthesia is the application of basic information concerning the physiology and pathophysiology of the CNS in a context of understanding the intracranial effects of drugs and anaesthetic manoeuvers. Since so much depends on the underlying principles, these will be reviewed before proceeding to the agents employed.

Physiology

In order that brain tissue remain alive throughout daily living or during craniotomy and manipulation of intracranial contents, three variables are necessary for homeostasis:

1) Uninterrupted circulation of cerebrospinal fluid (CSF) through the ventricular system and subarachnoid space.

2) Proper degree of extracellular hydration of brain substance (absence of cerebral oedema).

3) Normal cerebral blood flow in the vascular bed (arteries, veins, capillaries).

Each of these variables can be expressed in terms of a volume. Since the skull is a rigid, non-distensible container, elevation of any one beyond a certain point will result in raised intracranial pressure (RICP). This can be expressed concisely as:

ICP α vol. (brain tissue) + vol. (vascular bed) + vol. (CSF) $\pm$ vol. (space-occupying lesion)

Both the surgeon and anaesthetist can vary these parameters to maximize benefit for the patient—their relationship is symbiotic. Given that the object of neuroanaesthesia is to allow a neurosurgical intervention to proceed by maintaining a balance of factors necessary for neuronal survival, the neuroanaesthetists primary consideration is lowering ICP. If that is not possible, he should at least prevent further rises in ICP for an already compromised brain.

Pathophysiology

a) CSF Production and Pressure

In an adult, the normal total volume of CSF is about 150 ml. Seventy percent comes from the choroid plexus of all four ventricles; the rest, from a transudate of capillaries, within the brain substance, which connect with the brain extracellular space. The accepted normal limits of CSF pressure range between 60 and 180 mm saline (or CSF) in the lateral recumbent position.

One of the oldest methods of decreasing ICP is removal of CSF, usually from the lumbar subarachnoid space. This method is useful when the surgical approach to a tumour is already difficult, as with tumours situated near the base of the skull or with pituitary tumours. The problem with CSF drainage in the presence of RICP is herniation of the cerebellar tonsils through the foramen magnum if the fluid escapes too quickly. Therefore, it is rarely, if ever, used alone nowadays, and is usually combined with hyperventilation and osmotic dehydration in order to maximally decrease brain bulk.

b) Brain Bulk

Neurons, Neuroglia

The CSF is about 100% water. The CNS is about 80% water, being compliant like a balloon (the pia-arachnoid) filled with viscid molasses. In a normally hydrated brain, as in any other tissue, an intravenously administered osmotic load causes a reduced volume of cell mass, in order to achieve osmotic equilibrium with the extracellular space. Consequently, there is a fall in ICP. Conversely, if blood is diluted by large amounts of water — as occurs when D5W is given (the liver in a fasted individual rapidly taking up the dextrose)—a corresponding dilution occurs intracellularly, thus increasing brain bulk. This is why proper hydration of the neurosurgical patient is critical.

Cerebral Oedema

In an abnormally-hydrated brain, cerebral oedema will raise ICP by acting as a space-occupying lesion (SOL). Oedema usually arises by way of local factors that increase capillary permeability at the site of any trauma to the brain. Oedema around tumours is also common, being due to both elaboration of vasodilatory metabolites (from high cell turnover) and mechanical obstruction of venous return which causes permeability with stasis of local capillaries. Since such a brain is very difficult to retract without damage, hyperosmotic agents can be used to remove oedema fluid, just as they remove intracellular water when the extracellular space is normal. At a dose of 1.5 mg/kg, 100 ml of water are removed from the brain substance. Such agents are contraindicated when there is brain hemorrhage — resultant sequestration of these agents' molecules only results in added accumulation of fluid due to their fluid-drawing effect.

Cerebral oedema of tumour origin is

not only responsive to the above measures, but also to steroids. Dexamethasone may be used pre-operatively to improve the patient's status, or following surgery, to reduce post-operative reactive oedema. Dexamethasone (Decadron) therapy usually commences with a dose of 8 to 10 mg, followed by 4 mg q6h. This level is maintained until either clinical improvement occurs or 4 to 5 days has elapsed; thereafter, the dosage is tapered and discontinued. Steroids are not without potential risks: the possibility of gastric bleeding, delayed wound closure, reduced resistance to infection should all be kept in mind when the drugs are used in high doses or for long periods.

Barbiturates also reduce cerebral oedema, and therefore RICP by a direct effect. They also diminish cerebral blood flow (CBF) and the metabolic rates of neurons.

c) Cerebral Blood Flow

Another factor which determines the bulk of the brain is the amount of blood in capillaries. When considered as volume per unit time, this is effectively the CBF.

Overall normal blood flow through the brain is 50 ml per 100 gm of brain, per minute. Even under extreme conditions, this blood flow does not greatly vary from this value. This independence from autonomically-regulated blood flow is called autoregulation.

This has the nature of an active vascular response: arteriolar constriction results when the distending pressure is increased, and dilatation when it is decreased (Fig. 1). Below the lower limit of 60 mm Hg MAP, CBF falls with progressively increasing ischaemia. The upper limit is 130 mm Hg MAP.

Metabolic factors causing an increase in CBF are CO_2 ($H+$ ions) and O_2. Conversely, CO_2 ($H+$ ions) and O_2 cause a decrease in CBF.

The practical consequences of the various regulatory mechanisms of CBF for the neuroanaesthetists are:

1) The MAP should be maintained within the limits of autoregulation.

2) Adequate oxygenation and CO_2 removal from the brain must be ensured. Hyperventilation can be used to produce cerebral vasoconstriction, and thus reduce the bulk of brain by reducing the amount of blood in the vessels. Another method utilizing the physiology just discussed is hyperbaric oxygen, which also reduces ICP by cerebral vasoconstriction.

d) Cerebral Venous Return

Central venous pressure (CVP) determines the pressure within the veins of the skull. CVP, in turn, is influenced by intramediastinal and intrapleural pressures, which are both directly influenced by respiration. Thus, ICP α cerebral venous return α CVP α intrathoracic pressure α respiration.

Practically, the anaesthetist wants to prevent a rise in ICP related to cerebral venous return by:

1) Preventing cough due to irritable tracheobronchial passages—done by anaesthetizing the endotracheal tube and trachea with local anaesthetic gel and spray prior to intubation;

2) abolishing expiratory contraction of abnormal flat muscles by using muscle relaxants in conjunction with a ventilator.

Figure 1: Relation Between Cerebral Blood Flow (CBF) and Mean Arterial Blood Pressure (MAP)

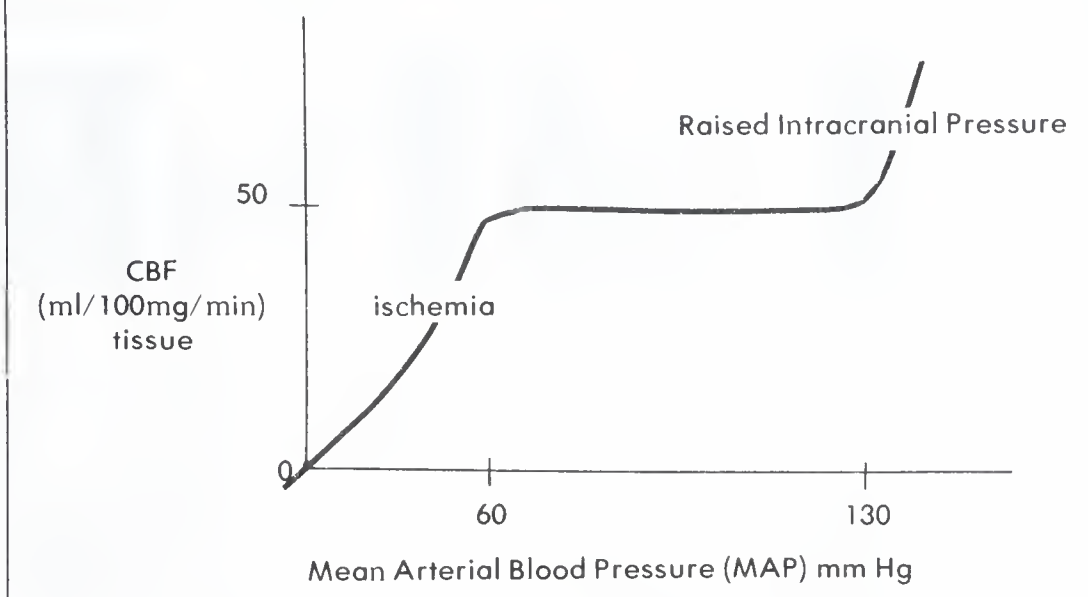
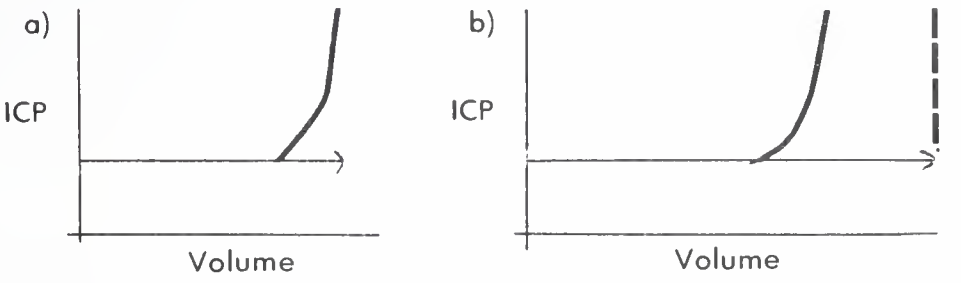


Figure 2: Effect of Coughing on Normal (a) and Pathologically Raised (b) Intracranial Pressure



Reasons for Meticulous Control of ICP

In order to fully understand the accentuation of drug-induced and other intracranial pressure changes, Figure 2.

The straight portion of the curve is defined by the Munro-Kellie doctrine: "ICP does not change if an increase or decrease in the size of one or more spaces is compensated for by equal and opposite changes in the size of the other spaces". In other words, it is important to realize that normal and pathological circulations do not behave in the same manner. The effect of coughing, for example, in a) a normal person, and b) one with RICP, is shown in Figure 2 using the pressure-volume relationship. Clearly, a moderate rise in ICP, such as might follow a cough, does not have as serious an effect in Fig. 2a as it would for one who already had RICP (2b). The following equation demonstrates the consequence of high ICP:

$$CBF = \frac{MAP - (ICP \text{ or } CVP)}{CVR}$$

Where,

CBF = cerebral blood flow

MAP = mean arterial pressure

ICP = intracranial pressure

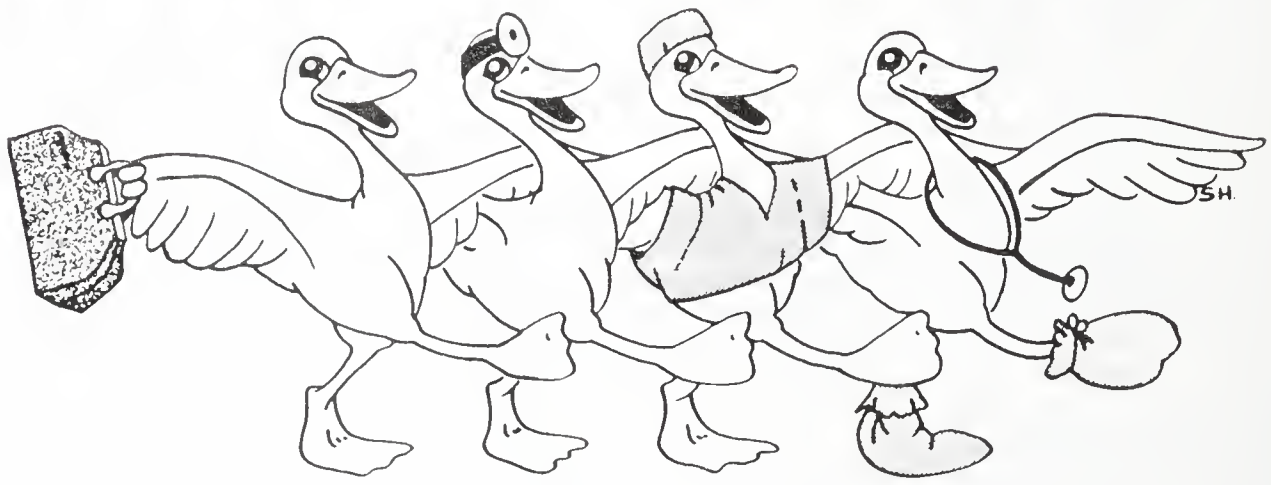
CVP = central venous pressure

CVR = cerebral vascular resistance

A high ICP will accordingly reduce CBF. A critically-reduced CBF results in decreased glucose delivery, as well as hypoxia, with consequent neuronal dysfunction. In fact, when ICP = MAP, CBF will be zero—in other words, cell death or infarction. Local hypoxia, hypercarbia and acidosis will further raise ICP, so as to be self-perpetuating.

Table 1 summarizes those factors causing a rise in ICP, with the corresponding action by the anaesthetist.

Daffydil '81



THE CAST WISHES TO THANK
EVERYONE FOR THEIR HELP
AND LOYAL SUPPORT IN
MAKING THIS YEAR'S SHOW

SOLD OUT

Table 1

ICP rises in response to:	Corrected by: (anaesthetist)
1) pathological interference with circulation of CSF	- CSF drainage, hypertonic solutions: mannitol, urea, 50% glucose
2) oedema fluid	- steroids, barbiturates, hypertonic solutions, hypothermia
3) hypercarbia, acidosis, hypoxia, hypoglycemia (effectively lactic acidosis since brain can only use glucose)	- proper ventilation - hyperventilation - preop. and operative glucose measurement with appropriate correction
4) venous obstruction, cerebral venous return	-adequate local tracheal anaesthesia to prevent cough - head up position
5) hypertension	- monitor BP and prevent undue rises such as occur with intubation by adequate local anaesthesia and prior muscle blockade (pancuronium) - minimal use of suctioning - induced hypotension
6) increased blood volume, administration of hypotonic solutions	- prevent overhydration, especially by D5W which causes cerebral swelling
7) metabolic rate with cerebral O_2 consumption	-hypothermia barbiturates

Intracranial Effects of Commonly-Used Anaesthetic Drugs

Inhalational Agents

1) Nitrous Oxide (compressed gas)

Nitrous oxide is the least potent inhalational anaesthetic, and has a weakly vasodilative effect on the cerebral circulation. In most patients, this agent is unlikely to cause significant changes in CBF and ICP, particularly since an intravenous induction agent (i.e., sodium thiopental) will usually also have been administered. In those with severe RICP, however, it would appear advisable to avoid N_2O until after tracheal intubation and the commencement of hyperventilation.

2) Halothane (volatile anaesthetic)

Clinical concentrations of halothane cause reduced cerebral metabolism and increased CBF. ICP increases, and the rise is accentuated in the presence of an intracranial SOL. This point (which, to a lesser extent, applies to the other volatile agents) is illustrated in Figure 3. Induced hypotension and hypothermia are advantageously facilitated by this agent. However, Halothane should always be administered with simultaneous hyperventilation, and its use should be avoided until after brain decompression in patients with a SOL, particularly if there is clinical evidence of RICP. These comments apply equally well to other volatile anaesthetic agents.

3) Enflurane (Ethrane) and Isoflurane (Forane) (volatile anaesthetics)

Both of these agents cause metabolic depression and cerebral vasodilatation. Ethrane is sometimes associated with seizure-like EEG activity; when this occurs, there is an increase in cerebral metabolism. (In the cat, EEG abnormalities may not appear until the third day after anaesthesia, and can persist for up to 2 weeks.) In light of these findings, it is unlikely to become popular for neurosurgical anaesthesia. Moreover, it should be replaced by other agents in epileptic patients. Forane is similar to Ethrane, but does not produce epileptiform discharges. Although both agents increase CBF, and therefore ICP, Forane has much less tendency to produce RICP, and thus has had some recent success during neurosurgical operations at St. Michael's Hospital, Toronto.

Intravenous Agents

1) Barbiturates

The effect of barbiturates on reducing the cerebral edema, and therefore RICP, has been mentioned. In addition, sodium thiopental will reduce CBF, and thus ICP. CBF is diminished since these agents reduce cerebral metabolism, and in turn, oxygen uptake by the brain; the consequent relative abundance of oxygen for the lowered metabolic state stimulates vasoconstriction. Thiopental has this effect only in quantities sufficient to produce at least narcosis, if not profound anaesthesia. Bolus sodium thiopental injections (1.5 to 3 mg/kg) put this effect to good use, by temporarily alleviating very high ICP in patients undergoing operation.

The other potentially useful effect of these agents relates again to their reduction of cerebral metabolism—namely, protection against global and focal ischaemia by allowing longer survival of ischaemic brain tissue.

2) Narcotics

Caution should be exercised with any narcotic agent when RICP has already compromised the patient's level of consciousness. Acute respiratory arrest is the major difficulty.

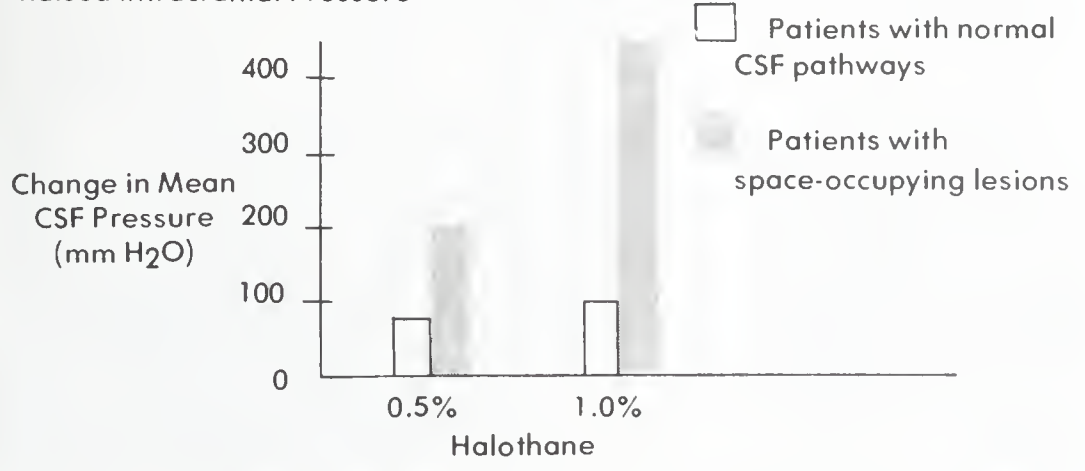
Muscle Relaxants

Succinylcholine (depolarizing)

It is probably a good idea to avoid using this agent in neuroanaesthesia altogether, but particularly in patients with RICP. Whenever there is potentially

(continued on Page 129)

Figure 3: Effect of Halothane on CSF Pressure in Patients with Normal and Raised Intracranial Pressure



Body - Brain, Body - Person

Wendell Block 8T4

The story may be true or false, exaggerated or a piece of anti-Soviet propaganda. It is told of their first astronauts, as they circled the earth far beyond its atmosphere. They reported back that, as expected and predicted by the State, God could not be seen anywhere. Only the points of stars and our own planets were observable, revolving in a vast, empty space. The astronauts were exultant (and, I suspect, not a little relieved!), thinking that they had achieved some sort of final, empirical proof that God does not exist.

Whether we believe in some form of God or not, we can all smile at this sort of naivete. Yet as our medical education sends us on our almost daily expeditions up and down the body's systems, it often becomes easy to accept a similarly simplistic solution to the old puzzle regarding the difference between bodies and souls, brains and minds: Solution? "There is, after all, no real 'soul' - 'you are your body', literally."

We cut through skin, muscle, bone and brain, viewing the body's 'machinery'. We trace the neural tracts and biochemical metabolic pathways which direct and 'fuel' the machine. Given that energy is available, appetites necessary for survival are excited or inhibited, action is dictated according to prior behaviour patterns and present sensory stimuli, emotive tone is superimposed on the whole, and the result is a day in the life of... As the astronauts discovered an empty space, we discover an empty body.

Few of us can be emotionally or intellectually satisfied with this view. We feel disturbed when it unconciously results in cynicism, or a despairing carelessness with ourselves, the people we love, and those we will deal with on a professional level. Intellectually, the kinds of questions we ask around the cadaver reflects our thoughtful disagreement: 'Who *did* this body belong to?' 'What kind of person *was* this?' Both of these questions reveal our recognition that a fundamental change has occurred, such that the quiet body before us is no longer a person. And we would not be satisfied with answers which describe the physical energy transformations which once occurred and now no longer do.

Further questions show what kind of answers would be accepted: "Do you think she had kids?" "I wonder who he admired. Haydn? the Stones?" "What did she believe in?" "Do you think she had many lovers?" *The answers would come in terms of conscious, active experiencing in relation to others, to ideas, values and memories, to self, to the world...* This is what we are talking about when we talk about *persons* ("I don't care what he looks like, who is he as a *person*?"). And for this I shall use the term 'person', for 'soul' is a word which many of us suspect rather than understand; and 'mind', as it is understood and respected, is too limited to contain the whole of what is meant.

The 'person' presented above, however, has not been explained, but merely described. No explanation has been given as to how there can be a difference between the material body and the person, or the relationship between them. Yet the description points to a relationship which is definitely not one of simple identity.

Perhaps in beginning our search for the person *within* the body, we proceeded in the wrong 'direction'. For if being a person is conscious, active *relating*, then the person exists 'between' the body and the 'object' he or she relates to. Thus the person does not exist inside the body, but, in a more or less figurative sense, the body exists at the centre of the person. The person is the bridging between the body and what is related to.

The image of 'briding' is helpful because it demonstrates the person's ultimate dependency for life on two factors. As there can be no bridge without two shores, there can be no person without a body or without something/someone to relate to.

The person's dependency on the body takes at least two forms. As persons on *this* earth, anyway, when the body ceases to function, the person ceases, much as the body deteriorates when the blood stops circulating. Further, the person depends on the body as the source of 'perspective' (a sensory 'point of view' in space and time).

But the fact that the person depends on the body in no way warrants the claim that the two are identical. There is, besides, the other 'foot' of the bridge to deal with. This is the 'foot' of who and what the person relates to. The life and perspective of the person depend as much upon its existence and quality as it does upon the body. This dependence is more difficult to grasp because the body seems to be a constant point of reference, while the specific of what we relate to continually changes. Yet it is evident that persons develop or disintegrate (often with effects on the body) depending on what the person is given to relate to. A prison, for example, especially if it has a confining rather than a rehabilitative function, usually reduces the person. He is literally caged in, cut off from the opportunities for relationship which would normally allow him to be a healthier person.

As medical personnel, it is therefore vital for us to recognize that we can not deal simply with a body in dealing with a patient. We are being related to, and as such become part of the patient's person, as he becomes part of ours. On both sides the opportunity exists to nourish the health of the other person by relating in a valuable, life-enhancing way; or to

assault the health of the other person by treating him as a mere body, or a mere professional crutch. There is the opportunity for bringing healing to the person in his damaged, harmful relationships, and there is the opportunity for aggravating that pain by ignoring it or by supporting systemic structures which cause the *person's* 'relational illness' (e.g. discrimination on the basis of age, attractiveness, social class, sex, race...; inequality of opportunity for health care; impersonal treatment in hospitals which, as confining, can unintentionally be as 'depersonalizing' as a prison; etc.). It is important for us to recognize our own and our patients' dependence for well-being on the value ('beauty') of our relationships; and it is important to recognize that our own limited resources in this area of personal care can be supplemented by the resources of others.

In conclusion, this 'exploration' of the body and person provides a description which shows that there definitely is a person, which cannot simply be equated with the body and the body's functional material sequences. The person exists as the active, conscious 'bridging' between the body and the object of relationship. The *person's* health depends on the health of both of these factors, and as physicians we must take care that healing and positive life is brought to the person through both. After all, it is persons we care for. We bury bodies. □

MEDICAL ALUMNI ASSOCIATION

In addition to supplying direct financial help to graduates and undergraduates, the **Medical Alumni Association** also gives financial support to the Medical society (Arts & Letters, Orientation and the Yearbook) and to the Faculty of Medicine (Dean's Fund, Update). Members of the Executive Committee represent the Alumni on the Admissions Committee (through the work of the Alumni, for example, admission requirements were changed to the current 60-40 weighting). In addition, there are two representatives on the Faculty Council, two on the University of Toronto Alumni Association, and two on the College of Electors.

In the 3rd issue of this year's Medical Journal (Vol. 58, No. 3), the M.A.A. ad outlined part of the 1980-81 budget of the Student Aid Committee. There are four additional M.A.A. scholarship awards:

The Dr. R.E. Haist Award in Physiology $200
Awarded annually to a student who, upon completion of the 2nd year, has achieved high standing in Physiology.

The Dr. Delbert S. Hoare Medical Alumni Undergraduate Award $1000
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Mixed Multiple Endocrine Neoplasia

Stephen Holzapfel 8T2

Multiple Endocrine Neoplasia (MEN) syndromes are thought to arise from dysplasia of the gut endoderm (MEN I), or the neuroectoderm (MEN II and III). This report describes a patient having a pheochromocytoma, hypergastrinemia and hyperparathyroidism - features of both MEN I and II. The significance of mixed MEN syndromes is discussed with respect to the origin of the endocrine system.

Multiple endocrine neoplasia refers to the occurrence of a number of different hormonal peptide-secreting tumours in the same individual.[1-4] Three syndromes are recognized, Table 1. Most of these tumours are representatives of the APUD (Amine Precursor Uptake and Decarboxylation) line of cells. It is generally thought that derangements of endodermal APUD cells give rise to MEN I, whereas alterations of the neural crest APUD cells lead to MEN II and III.

Pearse[5] proposes that there is a primitive APUD cell which originates in the epiblastic ectoderm and then seeds both the neural crest and the primitive foregut. Were dysplasia of these progenitor cells to occur, this theory leads one to predict the existence of overlap syndromes. Mixed syndromes have been reported.[6-10] The following case describes a patient exhibiting major elements of both MEN I and II: pheochromocytoma, hypergastrinemia and hyperparathyroidism. This is, to my knowledge, the first report of such a triad.

Case Report

D.P., a 74-year-old Caucasian male farmer, was admitted to Sunnybrook Medical Centre in May 1980 for investigation of an abdominal mass. Diffuse abdominal tenderness and a mass had appeared over the preceding 10 months. He has a 50-year-history of palpitations, hypertension and orthostatic hypotension. He denied having had headaches or excessive sweating. His medications prior to admission included hydrochlorothiazide 50 mg OD, propranolol 40 mg qid, and prazosin 1 mg tid.

At age 25 he had a paratracheal abscess, for which he received 7 radiation treatments. In the same year, hypertension and hyperthyroidism were diagnosed. He was treated for 5 years and then stopped therapy. When aged 50 years, he had a right-sided kidney stone removed, and was restarted on antihypertensive medication. A lipoma was removed from his back when D.P. was 68. Biopsy of a scalene node and a bronchus at age 71 showed changes consistent with sarcoidosis.

Three paternal uncles died of "stroke" his father of trauma. Two daughters are hypertensive, one of whom was hyperthyroid with a goitre. One son died at age 48 of a frontal lobe astrocytoma.

On examination, D.P. appeared his age and looked well. Heart rate (supine) was 58/min. and regular. Blood pressure, supine, was 210/95; on standing, 170/85. There was no marfanoid habitus, cafe-au-lait spots or mucosal lesions. No thyroid abnormalities were found. A deep, poorly defined, nonpulsatile mass about 10 cm in diameter was found 5 cm to the right of the umbilicus on abdominal examination. There was a mobile, rubbery mass, 2 x 1 cm, on the medial aspect of the right arm. Pressure on it caused pain over the ulnar nerve sensory distribution. It had been present for over 30 years. Neurological examination showed generalized hyporeflexia.

Laboratory investigations showed normal hemoglobin and blood count and normal electrolytes. Other values are listed in Table 2. Chest X-ray showed a long-standing, enlarged right hilum with interstitial fibrosis. Skull films showed no sellar abnormalities. CT scan showed multiple, small bilateral renal cysts as well as a discrete mass below the inferior pole of the right kidney. The pancreas appeared normal. Angiography demarcated the somewhat vascular 6 x 4 cm mass in the periaortic area.

At surgery, a large pheochromocytoma was removed from the anterior surface of the aorta. It had elevated the renal veins and right renal artery, and had no connection with the adrenal gland. The adrenals felt normal. Pathological examination showed a well-excised pheochromocytoma, 8 x 6 x 4 cm. A periaortic lymph node was clear of metastasis, but showed sinus histiocytosis and lipid granulomas.

After the operation, the hypertension decreased only slightly. Two months afterwards, it was 168/85 (supine) and 122/70 (standing), while on no medications. Urinary catecholamines had dropped to 20 mg/day. Distressingly, his other indices increased markedly. Parathormone levels were up to 480 pg/ml, and serum calcium at 11.2mg%. Calcitonin was elevated above ULN to 123 pg/ml. Gastrin nearly tripled from the already high value to 1770 pg/ml, Fig. 1. None of these values caused any symptomatology. The source of his hypergastrinemia has not yet been localized. A screen of his relatives for possible familial MEN is under way.

Discussion

This patient presented with a number of mixed features of MEN, Table 3. Documented histology exists only for the pheochromocytoma. The other abnormalities remain clinical and biochemical diagnoses. Although the absolute pathological diagnosis may remain somewhat conjectural, the elevated hormone levels are well documented and must be explained.

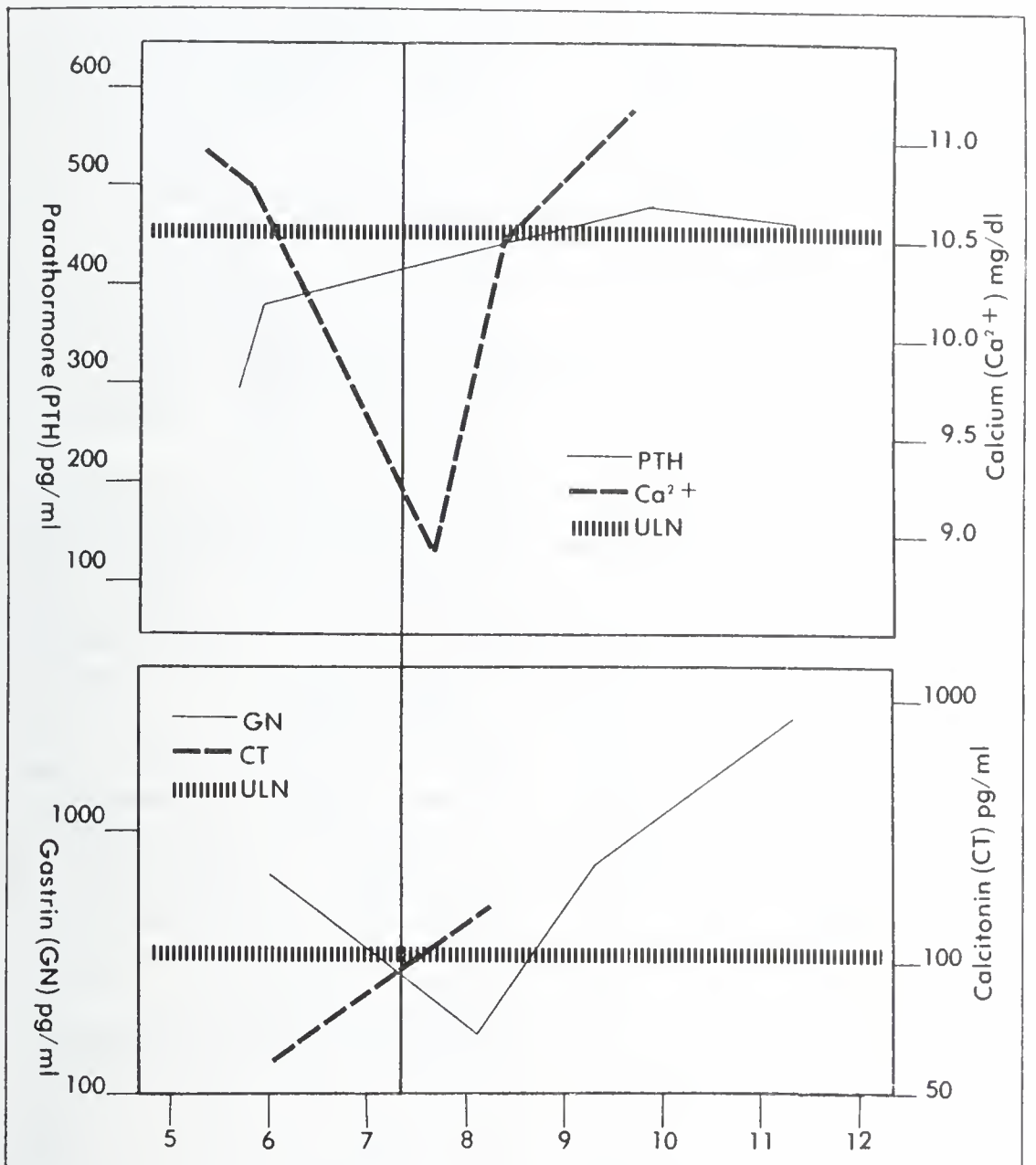

Figure 1: Note that GN and CT plots are semilogarithmic. Vertical line is date of pheochromocytomectomy.

Pheochromocytoma

Pheochromocytomas obey the rule of 10's:

10% are familial
10% are bilateral
10% are multiple
10% are extra-adrenal
10% are malignant

Pheochromocytomas in MEN II differ from sporadic caes, in that they are mainly bilateral, often multicentric, familial, and associated with medullary hyperplasia.[11] Extra-adrenal pheochromocytomas can arise in the periaortic area, from remnants of the organ of Zuckerkandl, a major ganglionic structure in the fetus. During infancy this structure involutes, forming part of the sympathetic fibres overlying the lower abdominal aorta. Periaortic pheochromocytomas have been found in a patient with MEN II.[12] Patients with solitary periaortic pheochromocytomas and no adrenal tumours have been found in kindreds with bilateral adrenal pheochromocytomas.[7, 13]

It is tempting to speculate that the pheochromocytoma in this man may have been the cause of his hypertension and present for 25, or even 50 years! I suspect that the cause of death in some of the uncles and the cause of his daughters' hypertension may well be due to familial pheochromocytoma.

Hypergastrinemia

The most common islet cell tumour in MEN I is a gastrinoma.[1] The diagnosis is made by demonstrating an elevated serum gastrin level, or abnormally elevated responses to calcium and secretin infusions. Values above 500 pg/ml are considered diagnostic of gastrinoma. Secondary causes such as pernicious anemia and renal failure must be ruled out. Hyperparathyroidism can increase gastrin levels, but the hypergastrinemia was present in this case before the hyperparathyroidism.

Epinephrine and, to a lesser extent, norepinephrine infusions elevate serum gastrin. Hayes, et al.[14] showed that elevated gastrin levels in patients with pheochromocytoma could be normalized by giving potent alpha-receptor antagonists. It was initially thought that the alpha-adrenergic effect of epinephrine was responsible for the raised gastrin values observed in this case. Unfortunately, following surgery the levels have risen, indicating a gastrinoma.

Hypercalcitonemia

Medullary carcinoma of the thyroid, a major component of MEN II and III, can be diagnosed by finding a raised serum calcitonin level.[1] The fact that gastrin raises calcitonin values is of special significance. This is the basis of the pentagastrin stimulation test of calcitonin secretion [16]; in this case, the hypergastrinemia may represent an endogenous "test", with resulting hypercalcitonemia. A normal thyroid scan and minimal elevation of calcitonin, coupled with a large increase in gastrin secretion, favour a reactive, rather than neoplastic, cause for this man's hypercalcitonemia.

Hyperparathyroidism

Hyperparathyroidism is common to both MEN I and II, but is conspicuous by its absence in MEN III. The parathyroid glands are not derived from the neural crest, as are the other components of MEN II and III.[5] In contrast to primary hyperparathyroidism, which is usually adenomatous, the MEN syndromes' pathology is similar to that found in secondary hyperparathyroidism [17]. Some feel that the change is reactive due to the high circulating catecholamine levels.[18, 19] These authors do not explain the absence of hyperparathyroidism in MEN III. Although **acute** increases in catecholamines induce high parathormone levels,[20] **chronic** stimulation such as from a pheochromocytoma does not.[21] Indeed, if high catecholamines caused hyperparathyroidism, then a syndrome of pheochromocytoma and hyperparathyroidism should be common. But this is exceedingly rare, with only one case report known.[22]

It is argued that high calcitonin levels lead to hypocalcemia, followed by a compensatory hyperplastic response in parathormone production.[3] But patients with sporadic medullary carcinoma show no greater than normal incidence of hyperparathyroidism.[1] In the present case, hyperparathyroidism is present without hypercalcitonemia, indicating strongly that hyperparathyroidism is not necessarily secondary to medullary thyroid carcinoma.

No consensus exists as to the cause of hyperparathyroidism in MEN I. Insulinomas and glucagonomas have

Table 1

Manifestations	% involvement in affected patients
MEN I (Wermer's Syndrome)	
Parathyroid hyperplasia	90
Islet cell tumours	80
Pituitary adenomas	65
Other:	
Thyroid dysfunction	20
Schwannomas, Lipomas, Carcinoid tumours, Thymomas	
Adrenocortical tumours, Oat cell carcinoma of lung.	
MEN II (Sipple's Syndrome)	
Medullary carcinoma of thyroid	95
Pheochromocytoma	50
Parathyroid hyperplasia	40
Other:	
Glioma, Glioblastoma, Meningioma	
MEN III (MEN IIb)	
Mucosal ganglioneuromatosis	100
Medullary carcinoma of thyroid	95
Pheochromocytoma	50
Other:	
Marfanoid habitus; peculiar facies, Ocular neuromas, Intestinal gangliomatosis	80

*Modified from Pont[1], with additions from Schimke[2] and Khairi[4].

Table 2

Laboratory Values	**Patient's Values**
Blood Urea Nitrogen (8-23 mg%)	**29**
Serum creatinine (0.6-1.5 mg%)	**1.5**
Urinary Vanillylmandelic Acid (0.5-7.1 mg/day)	**17.9**
Total Urinary Catecholamines (Upper Limit of Normal (ULN) 100 mg/day)	**445**
Resting Serum	
Norepinephrine (ULN 200 pg/ml)	**1115**
Epinephrine (ULN 50 pg/ml)	**556**
AM Renin (0.3-1.3 ng/l/s)	**0.5**
AM Serum Cortisol (7-18 ug/dl)	**13.1**
PM Serum Cortisol (2-7 ug/dl)	**4.7**
Total Protein (6.2-7.8 mg%) Electrophoresis showed elevated Gamma-globulins, Albumin normal	**8.5**
Corrected Serum Calcium (8.9-10.5 mg%)	**10.5**
Phosphate (2.5-4.7 mg%)	**2.7**
Alkaline Phosphate (30-90 U/l)	**92**
Parathormone (150-450 pg/ml)	**350**
Calcitonin (0-100 pg/ml	**58**
Thyroxine (5-12 ug/dl)	**4.3**
Free Thyroxine (1.0-2.5 ng/dl)	**1.0**
TSH (0.5-5.0 uU/ml)	**7.5**
Thyroid scan - normal	
Antibodies to thyroglobulin, Microsomal antigen not detected	
Serum Gastrin (40-150 pg/ml)	**707**

been suggested as possible culprits. Gastrinoma has been thought to increase parathormone as well as calcitonin levels[23]. A major flaw of that study was not ruling out possible MEN II components from coinciding with the supposed solitary gastrinoma. Ectopic pancreatic parathormone has been found. All of these explanations fail to explain those cases of MEN I with only pituitary and parathyroid involvement[1]. Most authors now agree that the hyperparathyroidism is a fundamental manifestation of the underlying gene defect in MEN.

D.P.'s hyperparathyroidism may have been present for more than 25 years, as shown by the kidney stone (most likely containing calcium) removed at that time. Other factors are present which would account for the hypercalcemia. Thiazide use can lead to hyperparathyroidism and hypercalcemia. This is unlikely here, as the stone developed before diuretic therapy was instituted. Sarcoidosis can raise calcium levels and is consistent with the changes seen in the lung X-rays and the biopsy granulomas. But the parathormone levels, inappropriately elevated for the corresponding calcium values, incriminate parathyroid hyperplasia as the cause.

Neuromas and Minor MEN Elements

The tumour involving the patient's ulnar nerve clinically was a schwannoma. These are found occasionally in MEN I, and rarely in MEN II,[2] but are usually located centrally. The neuromas seen in MEN III are found primarly in the mucosa of the mouth, eyes and GI tract. None have been reported peripherally. This man showed no other stigmata of MEN III, such as marfanoid habitus or thickened lips.

The patient's son had died of an astrocytoma. This is probable evidence of a familial link for neural dysplasia. Pheochromocytomas and astrocytomas have been found together in a patient[24]. Gliomas and glioblastomas have been the cause of death in MEN II.[2]

The finding of a lipoma and abnormal thyroid function is consistent with MEN I.[2]

Mixed Multiple Endocrine Neoplasia

Only within the last two years have cases of MEN syndromes with major overlap been reported[6-10]. Cases of pheochromocytoma and islet-cell tumours[6]; pheochromocytoma and pituitary tumours[7]; and gastrinomas in association with MEN II,[9] have all been shown to be familial and appear autosomal dominant in nature.

Table 3

MEN I	MEN II
Hypergastrinemia	Pheochromocytoma
Hyperparathyroidism	Hyperparathyroidism
Lipoma	? Hypercalcitonemia
Schwannoma	Son's Astrocytoma
Abnormal Thyroid Function	

*Underlined manifestations represent major elements of the MEN syndromes.

Carney *et al*'s study[6] of three unrelated families with pheochromocytoma and islet-cell tumours failed to disclose any abnormalities in pancreatic hormones, gastrin, calcium, parathormone or calcitonin. None had peptic ulcer disease. Nathan *et al*[8] report a case of pheochromocytoma and gastrinoma, with elevations of catecholamines, gastrin and calcitonin, but normocalcemic (and therefore normal parathormone levels.) That patient, in contrast, had peptic ulcer disease. No thyroid or parathyroid pathology was found. The present case has many features very similar to both of these reports, with the additional finding of hypercalcemia and hyperparathyroidism.

These reports of mixed MEN show that the classification of MEN into specific syndromes is somewhat arbitrary. As hormonal assays become more readily available, I suspect that the discovery of new cases of variant MEN "syndromes" will increasingly occur. The current system has become cumbersome: I, II, IIa (which is really II), and IIb (which is now III). It seriously straightjackets clinical thinking into inflexible categories. A new approach is needed, in which it is emphasized that patients with one endocrine neoplasm are at risk of developing another one—**any** other one.

Origins

It appears that a more generalized pathogenesis must be sought. Weichert[25] proposed that the primordial lesion occurred in the meuroectoderm, which forms the neural crest, that structure in the embryo which then differentiates into the peripheral nervous system, autonomic ganglia, adrenal medulla and thyroid C-cells[5]. Pearse[26] attempted to demonstrate that his APUD cells migrated from the neural crest to form all the future endocrine systems. This concise model was quashed when it was shown that the pancreas is not derived from the neural crest [27,28].

It became apparent that classical "gut" hormones such as gastrin could be found in the brain[28] acting as neurotransmitters; while enzymes previously thought to be only in the brain alone were shown to also be present in peripheral endocrine tissue such as the pancreas and parafollicular C-cells[29]. Mucosal neuromas secrete calcitonin, medullary thyroid carcinoma cause high catecholamine levels[30], and pheochromocytomas secrete parathormone[18]. Clearly, connections exist between neural and hormonal structures.

Pearse[5] now theorizes that the defect lies in the more primitive embryonic epiblast, where "neuroendocrine programmed cells" arise, which migrate to form part of both the neural crest and the gut endoderm. This would explain the dichotomy of MEN I and II, the overlap syndromes and the intertwining of the neuroendocrine system.

Defects in these cells give rise to divers clinical states, as exemplified by this case of mixed-up MEN. □

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(continued on page 143)

A Radiographic Analysis of 166 Charnley-Müller Total Hip Arthroplasties

Paul Cotterill, B.Sc., 8T3

A review of 166 total hip replacements, with follow-up from 6 months to 11 years, showed a 73% incidence of femoral "looseness", 22% incidence of progressive femoral "loosening", and 95% incidence of acetabular "looseness" for all radiolucent line sizes. The high incidence of femoral "looseness" may be partly explained by the rigorous criteria in the authors' definition of "looseness". However, femoral "looseness" remains high at 47% and 36% incidences at the cement-bone and stem-cement interface, respectively, for radiolucent lines over 1 millimeter. Only 1 trochanteric osteotomy was performed; omission of trochanteric osteotomy results in inadequate cement filling and a lack of proper placement of the femoral stem, contributing to the high incidence of femoral "looseness". Larger and more tapered stems, with routine trochanteric osteotomy, together with the use of low-viscosity cement under pressure, should be investigated to reduce the incidence of femoral "loosening" and necessity for revision. The Harris Hip rating was found to have good correlation with the radiological findings of loose and non-loose femoral stems.

The use of artificial joint replacements, particularly of the hip, have become increasingly popular in the last decade. Huiskes[1], states that in the U.S. alone, the number of total hip replacements performed annually rose from 55,000 in 1972 to 89,000 in 1976, and that in the near future, 300,000 artificial joint replacements will be performed annually throughout the world. Unfortunately, artificial joint replacements are not free from complications. In relation to the hip, factors such as infection [2 6] fractures of the metallic femoral stem [7 8 9], fractures of the femur [10 11], and loosening of the prosthetic components [8 12–17] have been increasingly reported.

Follow-up evaluations have been performed [8 13 14 16 18 19] to determine the causes of these complications. Salvati *et al*[17] looked at early and late post-operative roentgenographic findings in 100 consecutive Charnley arthroplasties, and found 93% of hips with a radiolucent line at the acetabular bone-cement interface, and 55% of the hips showed radiolucent lines at the cement-bone interface of the femoral component.

Gruen *et al*[18] followed 389 total hip replacements over a 6-month to 6-year period, and found 20% "looseness" at the cement-bone or stem-cement interface, and 14% progressive femoral "loosening". In addition, they introduced a method of classifying "loosening" of femoral stems into 4 radiographic failure modes, Table 2. In spite of these alarming figures, Charnley[8] notes that only 25 of 10,000 (.25%) implants required revision for loosening.

The purpose of this study is to analyze, roentgenographically, 166 total hip replacements, at successive stages over follow-up periods of 6 months to 11 years, to determine factors relating to the onset of femoral looseness and loosening. It should be noted that low-viscosity cement was not used in any patient in this group.

Materials and Methods

Radiological evaluations of 131 patients with a total of 166 total hip replacements (Charnley-Muller prostheses) were performed using anteroposterior views at successive stages beginning immediately after surgery. Follow-up studies were from 6 months to 11 years (average follow-up 4.4 years). Five hips with obvious infection were excluded from this study. All but 3 patients (hereafter referred to as hips) were over 50 years of age.

The position of the femoral component was described as valgus, varus or neutral. The position of the acetabular component was classified as neutral (45° ± 10), vertical (56° or more), or horizontal (34° or less).

The acetabulum was delineated into 3 zones, Figure 1, and radiolucent lines were graded either less than 1 millimeter, 1-2 millimeters, or greater than 2 millimeters. The proximal femur was delineated into 7 zones, Figure 1, and examined for looseness at both the stem-cement and cement-bone interface. Radiolucent lines were similarly grouped. The authors' definition of *looseness*, similar to the definition of Gruen *et al*[18], included

1) fractured acrylic cement, and
2) a radiolucent zone at the stem-cement

Chronological evaluations were performed on each hip in order to assess progressive femoral *loosening*, described as:

1) progressive changes in the width or length of radiolucent zones,
2) sclerotic bone reactions,
3) widening of a cement fracture gap,
4) gross movement of the femoral component and
5) stem fracture.

In addition, each x-ray was examined for factors relating to the femoral component: calcar resorption, subsidence, cavitation, Figure 5, adequacy of cement filling, and trochanteric osteotomy.

In order to correlate the radiographical results with clinical data, the patient's weight was obtained, as well as a Harris Hip rating[11].

Table 1: Correlation between state of femoral component and position of femoral stem.

Position of Femoral Component	Condition of Femoral Component			
	Non-Loose (N = 45)	Looseness (N = 121)	Loosening (N = 36)	Total (N = 166)
Valgus	11 (24.4%)	28 (23.1%)	3 (8%)	39 (23.5%)
Varus	12(26.7%)	38 (31.4%)	14 (39%)	50 (30.1%)
Neutral	22 (48.9%)	55 (45.5%)	19 (53%)	77 (46.4%)

Table 2: Occurrence of progressive femoral loosening characterized by Modes of Failure.

Mode of Failure	Total Hip Replacements
Ia	11
Ib	9
II	11
III	3
IV	5
No Mode	1

*Thirty-six total hip replacements (21.7%)
Ia (Pistoning of prosthesis within acrylic sheath)
Ib (Pistoning of acrylic encapsulated prosthesis within bone)
II (Medial mid-stem pivot due to weak calcar and distal stem support)
III (Distal stem pivots on calcar due to insufficient distal stem support)
IV (Weak proximal medial support with distal half rigid)

Results

Position of Prosthetic Components

Of the 166 hips studied, the acetabular component was neutral in 130 hips, horizontal in 6 hips, and vertical in 30 hips. The femoral component was varus in 50 hips, valgus in 39 hips, and neutral in 77 hips, Table 1.

Radiolucent Lines

Acetabular component: A radiolucent line was present at the acetabular bone-cement interface in 158 (95%) of the 166 hips studied. If lines only 1 millimeter or less are excluded, 122 cups show *looseness*. Radiolucent lines were seen in 54 hips in all 3 zones, 55 hips in 2 zones, 23 hips in zone I, 9 hips in zone II, and 17 hips in zone III.

The width of the radiolucent line was less than 1 millimeter in 36 hips, 1-2 millimeters in 111 hips, and greater than 2 millimeters in 11 hips. The radiolucent line about the cup progressively increased in width in 66 hips, decreased in 3 hips, and stabilized in 89 hips.

Of the 158 loose cups, 49 had follow-up greater than 5 years. Of those, 48 (98%) were already loose by 5 years; only 1 cup was not.

Femoral Component: a) *Looseness* was found in 121 (73%) hips. 101 hips (61%) had radiolucent lines greater than, or equal to, 1 millimeter.

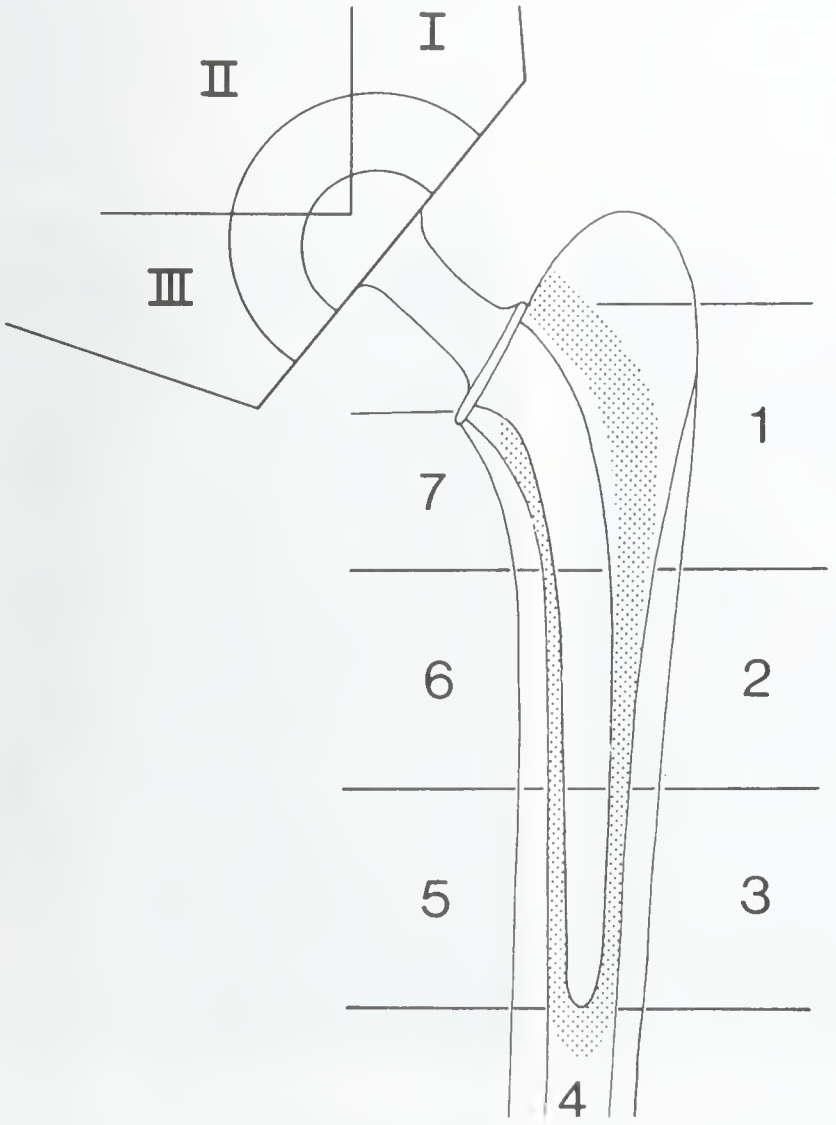

Figure 1: Delineated sections around femoral and acetabular components used in the radiological evaluation for looseness and progressive femoral loosening.

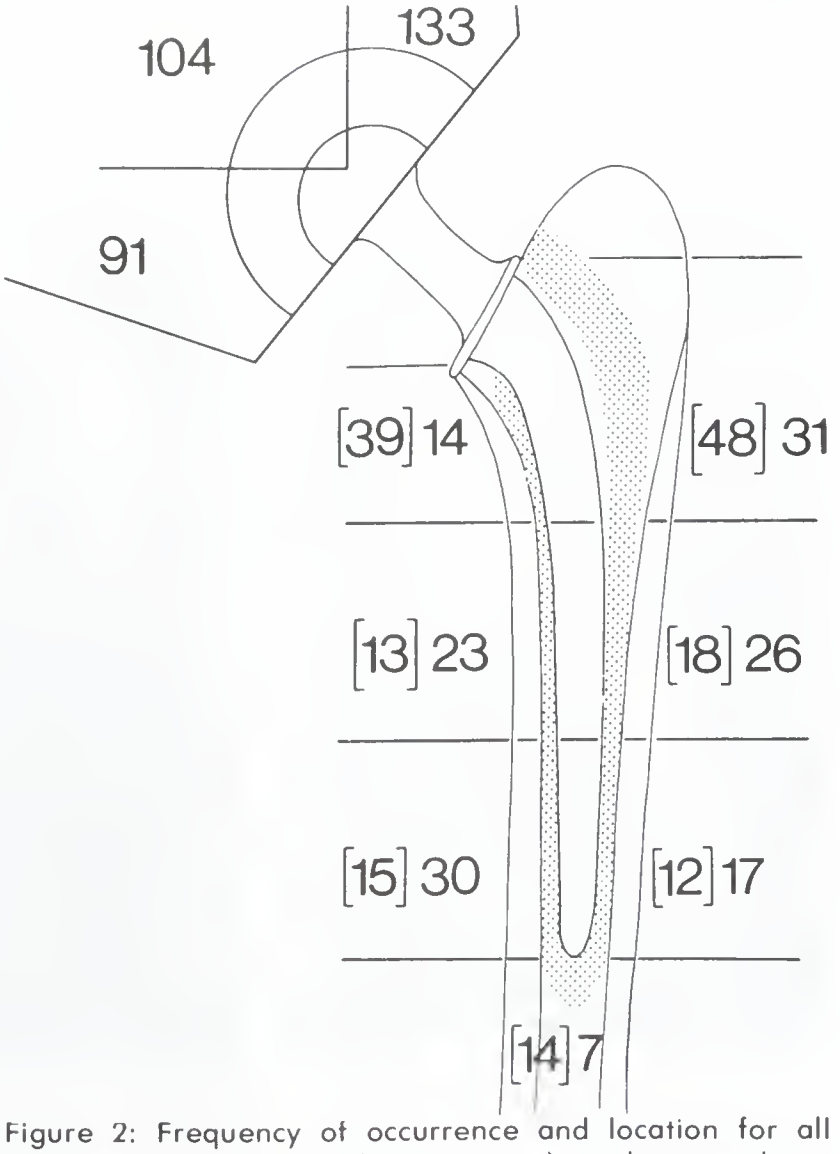

Figure 2: Frequency of occurrence and location for all radiolucent lines at the (stem-cement), and cement-bone interface, respectively and the acetabular zones.

Concerning the progression in width of radiolucent lines: of the 121 loose hips at femoral segments, 81 had lines that increased in size, 2 decreased in size, and 38 hips stabilized over the time period reviewed, Figure 2.

b) *Loosening:* Serial examination of the x-rays of the 121 loose hips showed radiographic evidence of progressive increase in the width or length of radiolucent lines, gross movement of the femoral stem, and/or stem fracture, in 36 of the 121 loose hips (22% of total series). The 36 hips, showing *loosening*, were then classified into one of the 4 modes of failure[18], Table 2. Four of the hips displaying *loosening* involved 2 modes. One progressed from Ia to III, one from Ia to II, one from Ib to II, and another from Ia to both Ia and Ib. One case of *loosening* displayed no mode, as this particular condition resulted from fracture of the femoral shaft sustained in an accident. Four of the 36 hips with femoral *loosening* have been revised, and two are awaiting revision.

Of the 121 loose femoral components, 42 had follow-up greater than 5 years. Of those 42, 37 (88%) were already loose by 5 years.

Additional Radiographic Characteristics of the Femoral Component

Fractures of the acrylic cement occurred 4 times, all in hips displaying *loosening*. In each case, the fracture was 1-3 centimeters proximal to the distal stem tip, in either zone V or zone III.

Subsidence occurred in 67 (40%) hips, and calcar resorption in 117 (71%) hips. Scalloping was present in 9 hips, and cavitation in 3, all associated with progressive *loosening*. One hundred and forty-eight (89%) hips had adequate cementing, and 6 of the 36 hips, showing *loosening*, displayed inadequate cement fixation.

In all but one of the 166 Charnley-Muller total hip replacements, the greater trochanter was not osteotomized, and this one trochanteric osteotomy was performed for revision of an uncemented total hip prosthesis.

Clinical Data

Table 3 correlates the condition of the femoral component to the Harris Hip Scale[20]. There was no correlation between the patient's weight and the incidence of *looseness* or *loosening*.

Discussion

In relation to positioning of the femoral stem, Table 1, there is little correlation between the position of the stem and the *non-loose* stems. Valgus placement was rare in stems showing progressive femoral loosening.

Looseness of the acetabular component was found in 95% of the hips for all radiolucent line sizes. This high frequency for radiolucent lines about the cusp, especially in Zone I, is comparable to those figures previously reported [13 17].

This study has indicated a 73% incidence of radiographic femoral stem *looseness* as determined by fracture of the acrylic cement or radiolucent zones from .5 millimeters to greater than 2 millimeters at either the cement-bone or stem-cement interface. While a 73% incidence of *looseness* markedly differs from the 19.5% incidence reported by Gruen *et al*[18], the 24% incidence reported by Beckenbaugh and Ilstrup[13], or the 55% incidence reported by Salvati *et al*[17], our figures drop to 47% and 36% if only radiolucent lines greater than 1 millimeter at the cement-bone and stem-cement interface, respectively, are recorded. Part of the difference between the authors' reported high incidence of *looseness* and that of other reports may be due to the authors' more rigorous definition of *looseness*. Beckenbaugh[13], for example, defines *looseness* as significant subsidence of the prosthesis with respect to bone; subsidence of less than 2 millimeters is not considered to be *looseness*. Charnley[8] also decided to ignore subsidence of less than 2 millimeters because small amounts of subsidence permit the tapered stem of the prosthesis to take up a better load-transmitting position at a lower level within the femur.

A 22% incidence of progressive femoral *loosening*, as seen by serial examinations of radiographs, was slightly higher than the 14.4% incidence reported by Gruen *et al*[18]. In relation to the 4 Modes of Failure[18], Table 2, 11

Figure 3: 66 months since surgery. Mode II type failure (medial mid-stem pivot) characteristic of progressive femoral loosening.

Figure 4: 56 months since surgery. Mode IV type failure with fracture of femoral stem, resulting from progressive femoral loosening.

Figure 5: 77 months since surgery. Mode Ia type failure with cavitation occurring in zone 7 of the femur, subsidence in zones 1 and 7, and scalloping in zones 2 and 3.

Table 3: Correlation between state of femoral component and Harris Hip rating.

Harris Rating	Condition of Femoral Component			
	Non-Loose	Looseness	Loosening	TOTAL
Excellent	13	15	2	30
Good	6	11	3	20
Fair	3	6	6	15
Poor	1	10	23	34
TOTAL	23	42	34	99*

*Number of patients with corresponding Harris Hip Scores

cases of Mode II type failure were found, of which 2 stems showed such a degree of medial mid-stem pivot that the distal stem broke through the lateral femoral wall, Figure 3. The authors' findings were similar to Gruen *et al*[18] in reference to Mode I as being the most common, but were contrary in that Mode Ib type failure was found to be no more common than Mode Ia. Mode IV occurred 5 times and showed one case of femoral stem fracture, Figure 4. This is the most serious end-result of gross femoral loosening, and according to Galante[9], can be due to such factors as the type of stem used, the material from which the prosthesis was made, the surgeon, and the patient population.

Of the 121 loose hips, at the femoral segments, 81 hips showed lines that progressed in size and 2 decreased in size. The 38 hips that stabilized could be in a permanent state, i.e. a result of the stem wedging itself into the intra-medullary cavity.

Charnley[14] stated that the hips which failed in his study showed radiological evidence of failure before the end of 5 years. Our findings substantiate his report.

In only 1 of 166 total hip replacements was osteotomy of the greater trochanter performed. Charnley's[14] excellent results of only 2 cases of aseptic *loosening* in 106 hips evaluated over a period of 9 to 10 years, in which trochanteric osteotomy was performed routinely, suggests that his technique allows better valgus positioning and cementing of the stem to render a better long term result.

All 3 instances of cavitation seen were in hips showing progressive femoral *loosening*. Cavitation may be caused by infection, wearing of the cup, or fragmentation of the acrylic cement, which then forms particles and tracks down the stem-cement or cement-bone interface, Figure 5.

Calcar resorption occurred in 71% of the hips, and was present in 33 of the 36 hips which showed a progressive femoral *loosening*. Blacker and Charnley[21] similarly report a 69.2% incidence of calcar resorption.

Fracture of the acrylic cement, associated with *looseness*, was seen in 4 (2%) cases. This figure is comparable to the 3% incidence reported by Salvati *et al*[17], higher than the 1.5% incidences reported by Weber and Charnley[22], but lower than the 7.8% incidence of cement fracture reported by Beckenbaugh and Ilstrup[13]. The author agrees with Beckenbaugh and Ilstrup, who state that all cases of cement fracture must be associated with femoral loosening. All of the cement fractures found in this study were located in the distal end of the femoral stem, in accordance with the findings of Salvati *et al*[17] and Charnley[8]. Weber and Charnley[22] found that fractures of the cement were not related to the patient's weight or sex. However, Galante[9] indicates that weight is an important variable in fracture of the femoral stem. This study found no correlation between the patient's weight and subsequent femoral stem loosening.

Inadequate cement filling of the femoral cavity was found in 18 hips. Six of the 36 hips with progressive femoral loosening showed this characteristic. Poor packing of the acrylic cement was [illegible] by Beckenbaugh and Ilstrup[13] to [illegible]e important than the positioning of the stem in producing prosthetic loosening.

The Harris Hip rating, Table 3, shows that there is good correlation between the clinical and radiological findings, and suggest that the Harris Hip rating is of great assistance when assessing the significance of radiological abnormalities in cases of suspected femoral loosening. □

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From First - Hand To Second - Hand

Changing Trends of Sexual Expression in the Eighties

Joel Axler, Harley Hahn

"Don't dream it, be it."
(Dr. Frank N. Furter)

The Grand Scheme of Sexual Evolution

So here we are. The game has changed and we're still playing by the old rules.

Several thousand years ago human beings discovered that babies were a direct result of sexual intercourse. (Imagine their surprise!) This was not only a great scientific discovery in its own right, but a profound turning point in human affairs. It led to the establishment of religious and moral codes (for example, the Old Testament), as well as the development of important family and community customs (for example, marriage). The evolution of sex as a purely recreational rite was rudely interrrupted by this discovery: that people—not the gods—controlled procreation. It was not until the development and popularizing of dependable birth control in the mid-twentieth century that the social pressures stemming from sex as procreation began to dissipate. The evolution of recreational sex resumed.

Important Social Forces Pertaining to Sexual Expression

Today's culture is characterized by a tendency towards vicarious living. Television and the like has expanded our awareness while at the same time changing us from participants into observers. For many of us, the ample availability of pleasure technology, leisure time and mood altering drugs has proven seductive. We are drawn towards a vicarious lifestyle based on events that are too expensive, uncomfortable, dangerous or improbable to be a part of our everyday, real existence. With respect to sex, the opportunity to create and satisfy desire without getting our hands dirty is attractive indeed. With millions of people spending a large part of their time in a fantasy world, the trend of vicarious sexual experience comes as no surprise.

But how does this new lifestyle interact with our old, pre-birth control morality and culture? Our customs demand that we draw the line somehwere. On the one side, we have the acceptable part of our sexual culture; some of it pornographic but still tolerated. On the other side of the line, we find that which we won't tolerate—the obscene.

In a vicarious culture we become obscene not by being too daring, but by being too real. For example, a fantasy of being seduced by a sex-hungry nymphomaniac may be pornographic but it is tolerated. On the other hand, depiction of forced adult/child sex would be obscene—it is too real.

Vicarious sexual expression causes a profound shift in our values. Image, not substance, is of prime importance. We don't want to be sexy, we want to look sexy.

Another profound shift in our values had its genesis in the early years of the lst decade, when we saw a change from the "all-of-us-together" idealism of the hippies to the "me first" culture of the late seventies. Furthermore, the economics and politics of the times were shocking: a world-wide oil crisis, the Viet Nam War, Watergate, the power of multinational corporations, a continuous inflation-recession cycle. From the shelter of our "me first" attitudes we began to peek out at the people around us, and we were scared by what we saw.

The traumatizing events of the seventies had invested the "me first" culture with a "me versus them" paranoia. From the serene *Leave It To Beaver* existence of our childhood, the walls started to close in.

We found our precious self-development to be grossly over-valued. Even a wheelbarrow full of healthy sexuality wouldn't buy us a single loaf of real human contact. Is it any wonder that in the midst of the current emotional recession people are less inclined to speculate?

Trends of the Eighties

The eighties will see distinct trends in sexual expression, one of which will be a rise in voluntary celibacy. This will be more than a pendulum swing away from sexual permissiveness. Rather, we will see people who are scared by the "me versus them" climate, taking advantage of the availability of vicarious sexual expression.

With this in mind, consider a drug which could safely decrease sexual urges for a short time. Such a drug (which we have thoughtfully named SEXASIN) would allow people to control their sex drive when necessary, in much the same way that diet pills can control appetite. Not only would SEXASIN appeal to abstainers, but it would benefit people who are afraid of being trapped by the inherent obligations of a sexual relationship.

Paradoxically, while many will find real sexual satisfaction elusive, a new realism in sexual imagery will develop. From food to fashion, from "love" toys to blue humour, people will continue to chase sexual stimulation.

We will see the rise of a non-network home video soft-core movie industry. With the technology of both pay-TV and videodiscs, we have a communications system that is less vulnerable to censorship and readily available. The nature of soft-core allows the fundamentals of script, plot, and even romance—the latter of which will be precious in the eighties. The hard-core industry will also grow, albeit into the homes of a cult of afficionados.

The home movie business will be but one segment of a communications industry that will sell vicarious sexual rewards. Under these conditions, the cult of scandal will become completely mainstream. Negative gossip and celebrity sex will treat us to a salon of second-hand sexual experience. We will buy a high profile star scandal to chip away a bit of the notoriety for ourselves because, ironically, one of the only freedoms we will have will be that of image projection.

The eighties will see an increase in uninhibited people interested in purely recreational sex. This will create a large market for artificial enhancement of sexual pleasure—especially for masturbation. Various kinds of mechanical aids (including vibrators) will become acceptable and common. Research and development towards heightening sexual experience will be acceptable.

There's an old story about Tarzan returning to the tree hut late one evening:

Jane (screaming): Where have you been all night?

Tarzan: Listen, Baby, it's a jungle out there.

We are living through a time of confusion. The evolution of recreational sex has resumed and we are caught in the clutches of an obsolete morality. The next decade will see us desperately trying to get in touch with our sexuality. Nevertheless, though love may take a beating, once the waves dissipate we'll have a good time.

The Authors:

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Harley Hahn, [B. Math, M. Sci. (Computer Science)], is a first year medical student.

Joel and Harley are enjoying the eighties and plan on living at least until the nineties.

Suggested Readings:

And They Took Themselves Wives
David Bakan, Harper & Row, 1977.
(A discussion of social conditions on on the writing of the Old Testament)

A Natural History of Love
Morton M. Hunt, Minerva Press,1959

How to Live Vicariously in the Eighties —Being Your Own Best Lover Without Guilt
Joel Axler and Harley Hahn,
Paradigm Press.

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(continued from page 117)

denervated muscle, potassium release by this drug is accentuated, and hyperkalemia may lead to cardiac arrest. Succinylcholine also causes a substantial increase in ICP, presumably due to the rapid and massive muscle twitching which increases both intra-abdominal and intrathoracic pressures.

D-tubocurarine (non-depolarizing)

This agent is better than succinylcholine, but it still causes RICP, due to its histamine-releasing properties. Significant falls in blood pressure can also elicit concern about ischaemia when the lower limit of autoregulation is approached.

Pancuronium (non-depolarizing)

This agent now appears to be the muscle relaxant of choice, because of its rapid onset of action and excellent relaxation for intubations, with little coughing and little histamine release. Unlike curare, pancuronium does not significantly raise ICP.

Conclusion

Table 1 has provided a summary of the major parameters that the neuroanaesthetist can control. If such measures are employed, neuronal destruction can be minimized intraoperatively, by allowing adequate retraction of brain substance in order to expose underlying pathology. In essence,

"The challenge that neurosurgical anaesthesia presents is that only meticulous and continuous attention to technical detail and to physiological and pharmacological principles allows optimal surgical conditions."[1] □

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The EST Programme: Trick or Treatment?

Normand Carrey 8T2

One rainy Thursday evening, I arrived at the Sheraton Triumph Hotel in Toronto to attend an introductory lecture on EST—Erhard Seminar Training—a lecture which turned out to be a suave sell job. Upon entering the lobby of the ballroom, I was assaulted by hand shakes and smiling faces, a name tag was pinned on me, and I was ushered to my seat amidst a capacity-filled auditorium. The audience was a representative cross-section of adults, from the very young to the elderly. An electrifying feeling of excitement buzzed in the air—a feeling of expectations about to be fulfilled. Impatiently, the crowd awaited the start of the lecture.

Suddenly, a smartly-dressed man raced to the front of the hall, whereupon he grasped a microphone and yelled "Hello!" The crowd heartily roared back in unison. The man proceeded onto a few brief introductory remarks, making no bones about the purpose of the evening: to get people to sign up for the programme, which would consist of two consecutive weekends of "training" at $400 a head. Buttressed by a panel of bona fide EST graduates, he invited the audience to ask questions abou the "training" and how graduates had benefited from it. One woman in the audience asked how EST was better than Christianity. Another woman had undergone the training but was dissatisfied with the results. Yet another wondered why the EST graduates were always smiling, pointing out that it seemed unnatural. In a circumlocutory manner, the Master of Ceremonies managed to rally these disparate comments into cohesive examples of how EST could work for anybody. Directing his answers at the philosophy behind EST and the goals of the organization,he spoke deferentially about the charismatic figure of Werner Erhard.

"You and I possess within ourselves, at every moment of our lives, under all circumstances, the power to transform the quality of our lives." (Werner Erhard) This statement forms the cornerstone of the EST philosophy, formulated several years ago when Erhard had become disenchanted with his own life. By various life experiences, he found that the only person responsible for his happiness was "himself". This could be realized only if a person would start thinking himself or herself as the "cause", and not the "effect", of events. Once this realignment in thinking had taken place, the person (according to EST) would begin experiencing a feeling of "aliveness", manifested by happiness, love, healthy, and full self-expression, the four shibboleths of the EST movement.

Undoubtedly, the changes EST brings about are real, in the sense of effecting subjective improvement by decreasing anxiety, and having one exert more control over one's life. The only moot point is that these changes probably could have been realized by the individual on his own. This potential for changed has been tapped, and used as a source of profit, by assorted cult movements and popular psychotherapies which have emerged during the past two decades. Each cult claims that one's true potential can be realized only by using its secret formulae; there is no accounting for the variable of personal motivations to change, independent of that cult's technique.

As an observer of these cult movements, particularly Transcendental Meditation (TM) (see *TM and Cult Mania*, M.A. Persinger and N. Carrey), I have noted several similarities between EST, TM and other TM-like cult movements. The promises of the "world about to unfold" or "secrets of the universe about to be revealed" are common to all such groups. Pledges of true happiness and enlightenment are on the lips of every zealous convert. The various cults engage in active propaganda campaigns against each other, since each claims to be the sole possessor of the truth.

The individual is given a certain set of values, and cliched phrases according to the movement's doctrine, in order to shape his perception of the world. Any improvement that does occur in the person's life is entirely attributed to the movement or its technique. Failure of the technique to be effective, however, is blamed on the individual's inability to perform the ritual, rather than on the ritual itself. Moreover, each movement receives its guidance from a charismatic, but autocratic, leader such as Erhard, Maharishi Mahesh Yogi, Marahaj Ji, or Reverend Moon.

From the psychological point of view, these movements, by offering simplistic views of the world, allow reduction of anxiety associated with *self environment* or *self-self* (superego) relationships. The individual enters into a trade-off, in which he can diminish anxiety by invoking group doctrines and labels, in exchange for surrendering his autonomy by strict obedience to the group and the leader. Group affiliation reduces alienation, since the individual is now part of a community which shares the same knowledge, goals and experiences. He is no longer alone in his combat efforts in the battle of life.

The cult follower, in addition, reduces his anxiety by utilizing defence mechanisms of the schizophrenic and the obsessive-compulsive—i.e. isolation or splitting of affect. TM followers, by seeking enlightenment in "Being (a subjective state of quiescence reached by constant meditation), adopt an approach where life events are insignificant or illusory, compared to the "true" or "real" experience of "Being." Thus, they

separate themselves from anxiety-provoking self-conflicts and life events, since they are invested with "Being", a state of perception characteristic of that of a detached observer. In EST, followers are told that they should be detached from life events in the sense of adopting a constant attitude in every situation. They are taught to act consistently, regardless of their underlying personality structure. In pursuit of "true happiness", EST graduates do not allow themselves to experience the common pitfalls that characterize a good portion of our lives as growing experiences.

It would be unfair to lump EST with the rest of the faddish self-improvement groups. What makes it distinct from the others are its method and its appeal to the cult of the *self*. As described in its advertising pamphlet, the EST method consists of 60 hours of continuous training— 2 blocks of 30 consecutive hours on two successive weekends. About 250 people are gathered into a large ballroom, with washroom breaks every 4 hours, and a maximum of 1 meal break per day. A daily session may last as long as 17 hours (9 AM to 2 AM). Each group is led by a "trainer" who presents "data" for the first part of the day, followed by questions from the "trainees". People are given the opportunity to share insights or experiences which they may have during the session.

The "cult of the self" emerged in the 1970s as a result of many socio-cultural factors. The cult is depicted in most negative form in Christopher Lasch's book, *Culture of Nascissism*. In his opinion, retreat into the self (as opposed to membership in a community with historical continuity) is not for introspective reasons, but rather for self-gratification. EST promotes this self-gratification as the primary purpose of one's existence. It puts the individual's needs before those of the family, community and nation.

Let is not be misunderstood that I am in favour of an individual blindly stumbling through life, without direction. On the other hand, it becomes ridiculously obvious to reiterate that a person is responsible for his actions and the consequences of these actions on his life. EST has chosen to glorify this banality and let people pay cash for it. The reason EST seems to work for some is that it packs a $400 punch which buys someone two weekends full of emotional upheaval and easy-to-learn, trite statements. □

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Arts And Letters Writing Contest

Once again, the creative minds among us have taken up their pens and submitted their works to the Arts and Letters Writing Contest. There were fourteen entries this year, seven in the poetry category and seven in prose. Marian Engel, the writer-in-residence, judged the contest, and the Medical Alumni Association kindly supplied the awards.

*The winners in the prose category were Harry Zeit 8T2 (first place),*My New Teacher*; Paul Walden 8T4 (second place),* Kay*; and Harley Hahn 8T4 (third place),* Late One Night. *In the poetry category, David Malkin 8T4* Jabbermusic, *Nigel Jagan 8T3* Cantos *and Robert Hegele 8T1* The Idiot Savant, *won first, second and third prizes, respectively.*

I would like to thank everyone who made a contribution to the writing contest as well as Dr. Giblon and the Medical Alumni Association who have given the Arts and Letters Society their encouragement and financial support.

Christa Jeney 8T3

MY NEW TEACHER

I must begin this story by relating to you a salient, but always ambivalent, interest in my life—the addictive reading of newspaper personal columns. Perhaps it all began in my childhood, dawning within the customary way our family distributed the Saturday paper amongst itself. Dad would start, extricating the sports section for himself, ready to consult the point-spreads for Sunday's NFL extravaganzas. Then mother, vacillating between the family section and the day's announcements: excitedly scanning the lists of new births and marriages, then becoming apprehensive as she reached the inevitable obtiuaries, glancing uneasily to see if old Max Schlichter's kidneys had finally given up on him. My younger sister, Brenda, greedily tearing out that swath of audaciously-coloured newsprint called the weekend comics or funnies. Alas, what was left for me? Certainly not the news. There was a family consensus that there was no good there, that the reading of editorials and journalistic documentaries was no doubt conducive to near-sightedness, neuroses, migraines, and, most certainly, an air of bad taste in one's intimate affairs. So, with only meagre offerings left to choose from, with a growing discontent for the entertainment section which never seemed to announce anything very entertaining, I finally succumbed to the personals. I was eight. A whole new world offered itself to me.

It may seem strange to you at this point, hearing about such a young child becoming so engrossed in the questionable invitations of old bachelors and lonely women, often blatantly expressing their desires before the eyes of the world, You may begin to wonder whether or not my early experiences were warped by bad parenting, suggesting that I would have been more appropriately prepared for the realities of life, had I instead buried my young eyes in the substantial meat of John Diefenbaker, the Bay of Pigs fiasco, and the Viet-Nam war. Still, I can disagree in retrospect, without any second thought or qualms of concience. What child - assuming he is of sound mind—wants to be confronted by the bloodshed of Hanoi and Haiphong during his breakfast, when, instead, first thing on a Saturday morning, his appetite can be whetted by some gem like:

> History scholar, age 45, married. Wishes to meet woman willing to dress as Aphrodite and share with him sweet nectar and love. Please send photo and a short list of primary ancient Greek texts read: A.E. Samuel.

Now, there was something consequential, something hopeful, a few concise lines that really could start a young mind up. So why was I cruelly criticized for my scholarly pursuits? My Grade 4 teacher suggested I read some childish atrocity called 'Ask Andy' which was buried in the back of the entertainment section with several other evil entries designed to satiate bird-watchers, bridge-players and word-puzzle enthusiasts. Every week, some sheltered and clearly misguided tyke would pose some trenchant question of searing topicality to the mysterious Andy, such as, 'Do toads really cause warts?' or 'Why do salmon swim upstream?' or 'Who was shorter - Napoleon Bonaparte or Adolf Hitler?'. For their strenuous efforts of imagination, this Andy, as hidden as the proverbial Wizard of Oz in his castle somewhere above Kansas City, would send the worthy mind a colouring book.

Well, I've laid it all bare before you, and I guess that you won't be surprised to discover that my love affair with Andy was over in less than two months. With a sigh of heady relief, I found my formative soul back where it belonged, imagining adulterous and clandestine weekend sorties between plotting and consenting elders in my society.

My mother and father seemed quite resigned to my early passion in life. They even smiled when I asked them if they had ever thought of discovering a secret lover through the newspapers. Standing up for their only son, they would explain to my teachers that I was rather mature for my age, a little too grown-up for the likes of the all-knowing, all-seeing Andy. How I admired them for discerning that the pursuits of my mind were deep, suffused with the desire to encounter information that lay close to the true roots of human experience and passion.

In my first year of high school, I was asked to write an essay on some social trend in my culture. As usual, my search for inspiration lead me to the personals. Lo and behold, some benevolent soul must have had my plight in mind, when he paid his pennies per letter and announced to those interested:

> Dirty limerick writer, age 28, interested in meeting others with similar pastimes. M. Lorch.

I wandered amidst public washrooms and bothered my classmates in the locker-room after basketball practice for suitable content. I even gathered the initiative to write the worthy M. Lorch himself, promising to make him the cause celebre of my essay if he consented to send me a few of his better offerings. Careful not to frighten him, I promised to

observe an unwritten copyright, using his material only for didactic purposes in my critique, never offering them to my peers for decorating the school johns. What joy when he answered by humble requests with a sympathetic letter of encouragement, and some of the best limericks I had ever laid eyes upon.

So, painstakingly, I read through my lengthy collection of limericks, attempting to produce an original thesis. It did not arrive easily and in the process I began trying out the art-form myself, producing some rather poor products:

There was a man from Fort Erie,
who was feelin' kind 'a weary -
"I'm sick of those girls
with their tits and their curls;
I think it's time I went queerie."

One fact was immediately clear. Beside the likes of M.Lorch, I was a hack, a literary midget. I felt even more strongly the urgent and pressing need to praise the world's unsung accomplished limericists. "These closeted artists", my impassioned pen began, "without public recognition or regard, still toil intrepidly at their pursuits, wanting no more than to produce a hint of laughter in our drab lives. They represent a hitherto ignored breed in our creative counter-cultures, these anonymous recluses, clearly visualizing us while we never see them. M. Lorch stands unquestionably in the forefront of these people, revealing irony and humour in ourselves that in our over-intellectualizations we have struggled to overlook." Once again the teachers were on my back, suggesting that the way to return was still open, that all it required on my part was to give in, and ascend the paths whose directions would lead the way to reclaiming my fragile sanity.

I must tell you though, in the strictest secrecy of the writer's confessional, that I was never bitter towards my teachers. I was never one of those tiresome, recalcitrant bores who had the audacity to suggest that teachers were purposely attempting to narrow the boundaries of our thoughts and extinguish the 'noble savages' within us. No, to me, the teachers were rather seductive, alluring me into some sort of mutual conspiracy with them. I loved my female teachers most of all, with soft, inviting smiles on their faces while they scolded me about my aberrant scholarly pursuits. Because I realized they were playing a little of the age-old game—and when I watched the way they would draw their tongues over their lips, many fantasies would spawn inside my head as I pictured all kinds of thoughts inside of theirs. After all, I surmised, teachers were as human as all other subspecies of human-beings. This, I had carefully gleaned from perusing certain revealing personals:

> Teacher, male, seeks companion for educational excursion to New Orleans. Expected to share driving and anything else that might be expected to come to mind...K.Rorschach.

or

> Female, attractive, age 35, separated, teacher. I am searching for a student to share some of the secrets I have amassed over the years. What made Cleopatra a leader and seducer of men? What is it that women hve always sought for in the eyes and creations of strong men? Why have so many writers advocated the teaching of the art of loving? Together with the right man I hope to delve deeper into these questions...Sandra S.

Without teachers attempting to throw me off the scent of my trail, I might never have stuck to it so closely and unswervingly. Despite their implorals to come around and learn from the customary texts, I branched forth with my own, no longer content with the rather arid columns of the *Star* and *Globe & Mail*. The whole world of personals really blossomed forth for me on my first trip to New York City. There, an independent and proud eighteen-year-old, I bought my first *Village Voice*. The *Voice* has since become my bible, and every week I treat myself to seeking out its personals like a lone pirate in search of the ultimate hidden treasure. Patiently, I wait for the column that is truly meant for nobody but myself.

Through the maturing process of the Seventies, the personals managed to grow up with me. When I had been a child, so had the whole meet-somebody-through-the-newspaper thing. One couldn't say a whole lot in those days. Back then, I sensed a lot of stifled wishes, vainly struggling to poke their way out of the enforced censorship of the quality newspaper. But the *Voice* was different. It boldly codified data that more respectable rags would not even print. "S", "Bi" and "G" quickly became apparent to me, and certainly seemed like space efficient devices for pronouncing one's sexual orientation. Later came "P" and "D" for passive and dominant. In two simple letters, one was already able to ascertain so much of his potential contact's preliminaries. And then candid truths followed. The lengthy personal columns of the *Voice* made the ones back home appear sterile and passionless. There, people said what they really wanted to say, asking for what they truly desired. There was no deception, no reluctant cover-up games.

Soon, much to my joy, I found that the *Voice* was not alone in its willingness to offer candid personals. One day at a first-year university party, I met a sweet-looking girl who, fascinated by my uncommon fetish for personals, informed me that the Cambridge newsletter put out by the students of Harvard University was definitely the most risque in the world.

"How do you mean?" I asked her excitedly.

"Well you know," she blushed, appearing somewhat embarrassed. "They tell you what kind of whip they want, how many times they want to be hit on each spot. That kind of stuff."

I felt myself grinning shamelessly inside. I mean, shit, good old Harvard. The epitome of North American scholastic achievement and they were openly baring their behinds in the personals, so that even the most innocent of co-eds might share a transient empathy with their desires. The whole idea suddenly titillated me. Seriously though, don't start thinking that all along, I was a closet sexual deviant. No, I was not opposed to personals becoming a forum for Ivy League DS&M experiences. All I mean to say is that it did not really interest me whether the columns implored for whippings, lesbian orgies, or poetry readings. It was just that my conception of the personals had to be more far-reaching and universal. The acts requisitioned were just the icing, so to speak, the overlaying of effect. Myself, I was really interested in the causality—in the terrible prevalence of loneliness and discontent all around me; in all the choked-off desires delivering tendrils of psychotic fear into minds' and bodies' forbidden release. Personals, I hoped, could offer a partial solution. They seemed to exude a sense of deliverance, a potential coming-together that had never been realized despite the sociologists, psychiatrists, humanists, and even the rock-singers who forever begged for it.

Yes, but so much philosophy does bore one, doesn't it? By now, I think that I know what you're thinking. Was I skirting the real issue? If I was so excited and up on the personals, why hadn't I myself made any use of them? Was I the egotist, above them? What kind of omnipotent, holier-than-thou act was I shamefully engaging in?

Oh, I don't blame you if you've already come to that conclusion. In fact, I must laud you for the expenditure of so much effort on these meagre words. For that's precisely the feeling that came over myself, and I began to ask exactly the same questions. When I did, I realized that I really did want to play the personal game, and out came my pen, and, by the next morning, I was on the phone, long distance to the *Voice*, dictating my humble desires over five hundred miles of telephone cable. Yes, I hope you've been able to sit back and enjoy all this build-up. With it behind me, I can now safely

proceed to my real task, to tell you about Patricia and my first experience that I obtained through the personals:

> Student, age 24, S. wishes to come out of retirement. Seeks ultimate lesson that has up until now eluded him. If you feel inclined to the task, please respond with short note. No teaching experience necessary Neil S. Toronto, Can.

I admit that it was not the most original of personal column demands, but, after all, I was a beginner at a new game, still more interested in results than in style. Oh, how I wish I could truly recount and convey my joy when those first responses arrived, those mysterious envelopes awaiting my bleary eyes as I excitedly dug into the mailbox. How important I felt! I was previously an unknown, a Canadian nonentity. And now—here I was being accepted on faith for a few suggestive and challenging words. My spirits soared like some proverbial half-bird, half-airplane as I leafed through replies, carefully debating on who would receive my response.

Yes, I was caught up in a new thrill, and there's never been anything bad about new thrills. What a rare pleasure, to finally see the other half of the personal experience. Previously, all I had been exposed to were the demands, cleverly couched in simple, economical phrases. I had allowed myself to be amazed by how much could be revealed and asked for in the brief, acceptable language the personal columns expounded. But now I was confronted by a new and wonderful facet of my pursuit. The answers to the columns demanded no such restrictions. Space was cheap and unlimited, and there was no censorship before a carefully morally-guarded newspaper audience. All along, I had been ignorantly obsessed with half the story. Now, suddenly, I had it all. The question. And the many answers. All before my expectant eyes.

And again you're too smart. Dammit, I can't hide anything in these days, when candidness has become a *sine qua non* of the times. Yes, still I did not have everything. That could not transpire until my teacher appeared, until we had somehow lived out our experience. How much more was there that I barely recognized in my dreamy perusals of the companions columns. My senses felt raw and untried, geared to new, unheard of excitements. Finally, I chose the woman for whom I would take up my pen. With whom I would take up the final stage of the game. Her letter sat idly before me, a dull challenge, now placed apart from all the rest, anxious for its own realisation:

> Dear Neil,
>
> No doubt you are new at this. Don't worry though—that sort of excites me. I like the freshness and optimism in your desires. I've been at it before and maybe I'm just ready to provide you with your 'ultimate lesson'. I hope that you're just as ready to receive it. There's nothing I like better than a keen pupil. Anyways, I have to be up in Toronto next month, and I hope our endeavours can prove to make the vacation all the more satisfying.
>
> See you Soon,
> Patricia.

Her assurance drew me to her, grabbed me in unsuspecting places like the best of feminine lures. The letter made me feel as if our meeting was really destined to be, as if it was sure to work. Her trip to Toronto was an unexpected convenience for me, and I quickly set to work writing her back, informing her that the pupil-once-again-to-be would be ready and expectant. Filled with an imminent sense of unrealized pleasures, the words of my letter flowed smoothly, hurriedly articulating my unappeased anticipation.

The month of waiting was apparently well worth it. I was strongly motivated and drawn towards Patricia from the moment she stepped into my presence. Seemingly quite wealthy, she was dressed in the most appealing of New York City *haute couture*, reminding me instantly of long walks on Fifth Avenue. Fox covered her body, flowing about her contours. Her hair was pinned up, surmounted by a wide-brimmed hat than angled nicely to complete a look of sensual insouciance. Eagerly, I welcomed her to my apartment, sitting her at the kitchen table for coffee. As she gracefully removed her fur coat, I dreamed unhindered of what lay ahead, my imagination running loose in great forays of impulsivity.

Yes, throughout my women-pursuing years, comrades and colleagues have informed me of many ingenious and effective ways of rapidly summing up a female as she steps into one's presence. Their clues, they felt, hinged on great subtleties. Did she initiate the conversation? How large or small were her breasts? How well did her rear move, and what was the colour of her lipstick? Patricia flooded my imagination too quickly for me to be overly concerned with such ingenuous analyses, but I did observe a few of my own anyways. Force of habit, I suppose—my life always seemed to be a complex game of formulating and verifying my hypotheses of life. So I, of course, noticed the little mannerisms that had proved themselves informative to me in the past, wondering if they would vindicate themselves one more time. Or would I have to begin again right from the beginning?

What were these observations, you might ask, desiring them selfishly for further employment yourselves. Well, I watched her prefer to hang up her coat herself, regarded her abandon her stylish hat but remain in her high heels, and listened to her request coffee over tea or wine. Perhaps these trivial details mean nothing to you. Probably you would find the *Village Voice* method of codifying into *P*s, *D*s, *S*s, *G*s and *B*is considerably more substantial. Still, I can assure you that I already knew a lot about this woman, and I was quite satisfied with what I had gleaned from her actions.

Before me, she sat silently at the table. I, too, was momentarily silent, preparing coffee for the both of us. Indeed it was a strange but calm atmosphere. Certainly, all we had exchanged up until now had been the customary pleasantries of two strangers finally meeting. Quietly now we summed up the ambiance about us. And I had no doubt then, that she was exercising her own, time-proven observations on me, baring me in the way that only veteran lovers and experienced personal column enthusiasts can.

Returning to the table, I deliberately placed afternoon coffee and French pastries before ourselves. Then, sitting down across from Patricia, I gazed at her more closely, taking in her fine features, her blonde hair and green eyes, her understated beauty that needed only a minimum of tastefully-applied make-up to make itself felt. I watched until I caught myself sinking too deeply, until I began to see too many reflections in those alluring green irises. Yes, as the great missionary St. Joseph himself had expounded before fleeing to old Siam—there really is something about being touched too strongly by green eyes. Anyways, that's what struck me. I never really believed the story about the great cholera epidemic. Old St. Joseph felt his vows threatened just a little too strongly by his own favourite pair of green eyes.

Her silence was now vaguely intimidating, though I suppose that mine was also. She had arrived at my request. So, I felt obliged to be a decent sort of host. Besides, to add one more hint to your no doubt vast repository of knowledge concerning the interchanges of the sexes, a woman who does not speak is not really as challenging as one might initially believe. She places herself at the mercy of the one who initiates the conversation, for it is he who chooses the subject, either deliberately, or much better, on a whim. Consequently, feeling the situation well under my control, I decided it was now time to delve ahead.

"So Patricia," I began softly, avoiding those dangerous, seductive eyes. "Do I have the look of a promising pupil?"

Much to her credit, she did not answer quickly. Instead, she took a moment to consider her reply, then responded noncomitally. "I don't know yet. Looks are rarely a true judge when it comes to teaching."

I nodded, fully agreeing with her.

"Still," she continued without a great deal of animation, "I'm sure that you'll do. There's a certain eagerness in your face."

Well, that startled me momentarily. I thought that I wasn't showing much at all. Was that all part of her game...or could she really see a little more than I had initially bargained for?

"I am eager. You're right about that. And a little confused also. I don't know exactly how much of the groundwork is my responsibility."

"Oh, I hope I'll be reasonably competent," she replied blandly. "Still, you could give me some idea concerning what exactly you wish to be taught. I mean the possibilities are practically infinite, aren't they?"

"They most definitely are," I agreed enthusiastically. "And that's what frightens me. I don't seem able to hinge on any particular one."

"Well, don't worry too much over that", she swiftly dispelled my doubts. "Instead, why don't you tell me a little about why you decided to write your column."

Now, there was a question even I could handle. She really was a teacher, a genuine find. I liked the way she moved adroitly ahead of me, how she appeared to have so little doubt about the task ahead of her. Pausing, I sipped my coffee, considering how best to describe my desires which culminated in my first request through the personals.

"It's difficult to say really," I began uneasily, searching for my usual conviction. "You see, I think I suffer from the world's most prevalent problem. Nothing really bothers me, there's nothing that I can really put my finger on and say—because of that I'm fucked up. I was blessed with model parenting; I was encouraged without being led astray or pushed too hard. Ever since, I've succeeded in everything I desired to do. I'm quite original, and do well at the things that interest me. I don't get terribly depresssed, and I don't worry much. Women have never been a problem and I have plenty of friends. In short, I guess that I just want to say that I have no hang-ups."

Patricia smiled through my long-winded dialogue, easily producing an almost skeptical expression. "If that's how your life is, then why be discontented?"

"Of course", I smiled also, already feeling more relaxed in her company. "I never said I was discontented, did I? Just sometimes, when I read a book or listen to someone's troubles, I feel sort of left out. I have trouble relating to what it's like to have real, serious problems"

A lousy come on, wasn't it, I thought to myself. Still I continued. "All I want is for you to help show me what it's like. You understand?"

"Yes," Patricia nodded, stroking her chin with a long, polished fingernail. "Not really the ultimate experience, is it, wanting to feel fucked up. Still Neil, I think that it's a worthy ambition you have, and I think I could be of help in teaching you a little on the topic."

Yes, I must tell you, that formal way she put her sentences together did just wonderful things for my head. Seduced by syntax. Again, I felt like a student, eager to study and learn, prepared to do battle and face the inevitable setbacks. My frequent high-school conflicts drifted back into my memory, and I suddenly wanted to ask her so many questions. Had she ever been a teacher? had she ever had a favourite student? Did the name M.Lorch mean anything to her? But I relented. If I was again to become a student, there was certain code and etiquette to be relearned. One did not speak out of turn, and one did not get overly personal or intimate. And, as I previously informed you, I was never a true rebel. For again, I felt convinced of the rationale behind the rules. It was crucial that the teacher carried her mystique and her illusions. After all, it helped one to pay attention, and to excel at one's learning.

"Fine," I said, rising to take her coffee cup, now emptied. "From now on you call the shots, right?"

"That's correct Neil," she answered seriously. "For now, I'll return to my hotel, think things over and prepare a first lesson for us. Then we can meet later, say at nine o'clock tonight. You'll pick me up?"

"Most certainly," I answered, and we both walked together to the front door. She walked ahead of me, reaching the closet first where she found her coat conspicuously placed between more conservative male accoutrements. Looking away from me, she lifted it on, then extricated her gloves from her pockets, and slowly slid them onto her hands. Then, turning, she took my hand in hers, telling me that it would be fun. I held the gloved hand in mine, glad that she had waiting so long before offering contact.

"I think so Patricia." I again risked peering into those green eyes as I shared her optimism about the fun we'd have. Predictably, she opened the door herself, and I stepped out after her, watching her walk briskly to the elevator.

Again inside, I didn't think about the encounter very much. There wasn't much to concern me—she seemingly had her role perfected, right down to her dignified walk along the hall. A vague sense of excitement lifted my spirits as I thought of pastimes to occupy my time before the evening. A cigarette, languidly drawn upon, killed about ten minutes, but after that, there did not seem to be a whole lot of diversion within the apartment. The television offered me the general afternoon fare with the likes of *Commander Tom* and *Leave It To Beaver*; but neither of them possessed the vision or empathy to reflect my mood. Further manipulation of the converter-box brought me Captain Kirk in heated discussion with a Klingon which held my attention for a while. I imagined the future, those bright days ahead of us, with their wealth of opportunities for strange meetings and couplings:

> Romulan, age 263, Bi, D, looking for a P. earthling to make voyage with him to starsystem Rigel Seven. Ship equipped with the latest in state-of-the-art music and sexual devices. Pleasure is guaranteed. The dream of any farm girl from Wisconsin.

or

> First Intergalctic Symposium of Naughty Limericks. Klingons, Vulcans, Talosianmind-warpers, Arkons and sundry space derelicts - This is your chance to finally put your skills to the task, and your opportunity to contribute to a vastly maturing art-form. M.Lorch VIth, presiding.

Yes, I already found Patricia lightening my mood, making my senses tingle. In my anticipation, I was soon predicting along and bountiful life of encounters and experiences brought forth through the personals. Only, what was there to do with all my unappeased excitement? I switched off the television, the U.S.S. Enterprise having once again saved the Federation, called up a friend and expended some of my energy on a game of indoor tennis. In the sauna, I told him my story and was met with an outburst of laughter.

"A teacher, huh. Does she assign homework?"

"I don't know yet," I answered truthfully.

"Well, what's she gonna teach you? Arithmetic?"

"I don't know," I shrugged, watching little wisps of steam emanating from my shoulders. "Maybe."

"Well, he," he opined. "Maybe she's got something better in mind for a big boy like you."

"Maybe she has," I agreed, taking his cue and re-arranging my sticky privates. "It's a surprise, see."

"I bet," he answered, giving me what sensitive mothers call 'a funny look'. "Still, I've got this hunch, I mean, you know these broads, the one's that go in for this kind of shit. Chances are, you'll get the blow of your life."

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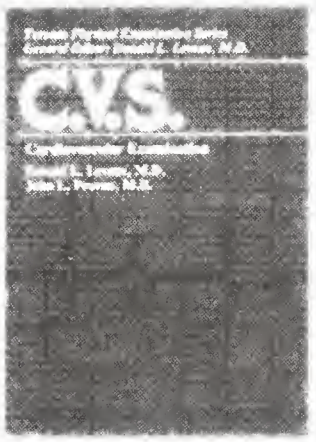

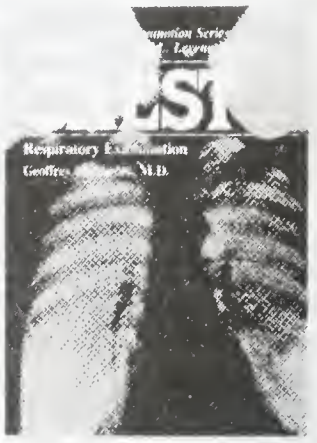

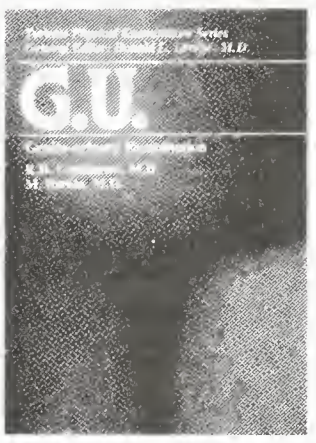

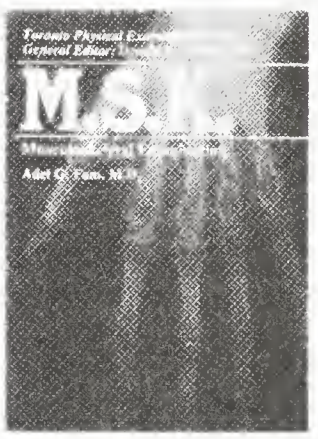

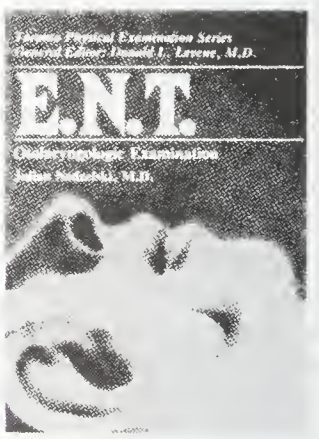

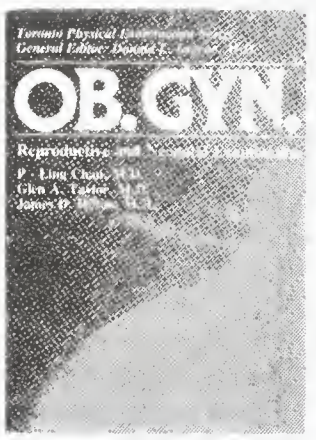

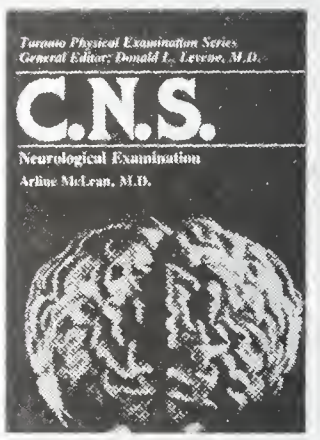

Patient Examination and History-Taking
by *K.J.R. Wightman, M.D.*

This book, which was authored and edited by Dr. K.J.R. Wightman, is intended as a guide for students of the art of history-taking and therefore becomes a matter of fundamental importance to a physician.
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"Maybe," I answered.

We both rose, having had enough of the heat. Under the shower, my friend showed no relent, pressing home his cause.

"All I want to say, Neil," he concluded, "is, well...you know, if anything good happens, give me a call. I mean, if that whole deal is what it's cracked up to be, with all those neurotic, horny chicks, maybe I just might take up your lead."

"She's not neurotic, man," I defended the honour briefly of the very institution he was attempting to profane. "And I'm not sure how horny she is."

Well, that toned him down a little, but he still slapped my back in the parking lot before I climbed into my car.

"That's like you, Neil, not getting your hopes up. Don't worry—she'll have you up. You know how I know it. The way your serve was coming down in the backhand court. She's got you worked up good, Neil."

Perhaps he was right. As I sat alone eating dinner, his words seemed to take on meaning. My mind was confused, like fog rolling into Victoria off the Thames. Only the dull twinge of my recently-acquired erection seemed to reveal any evidence of having discerned a direction. Anyways, I attempted not to dwell too deeply on how I felt any further. As I've painstakingly sought to inform you, I'm no fool, and I'm proud of the fact that I carry on a varied and occasionally, I hope, original lifetyle. I was not about to ruin this affair, analyzing it until I could pick up the reeking aroma of artificiality.

Yes, isn't that the problem with us all along? We forget what it's like to be a student, and when they finally liberate us from those nice provincially-subsidized buildings, we feel suddenly entitled to question everything, to quickly form sprawling sets of brilliant opinions. We stop drifting into experiences, and start to shape them instead, priding ourselves with our new senses of assurance. Sure, it's right to question certain proclaimed truths, but—correct me if I'm wrong— I think that, in general, we spend a lot of time and energy questioning a multitude of phenomena that should best be left alone. I think back to my mother, perched in the den with her *Cosmopolitan*, smiling at my father and asking sarcastically, "What sort of woman must I be, how can I best project my femininity, how should I show that I'm a person first before I lift up my skirt?" I liked the way she could laugh at those things. Oh, I know that I'm not a psychiatrist or anything like that. I just think that there are times when we inhibit ourselves too much by worrying about what sort of person we must be. Who knows? One friend says it's because we trained ourselves to masturbate in private. I doubt it somehow.

So, as usual when I ate alone with my thoughts, dinner passed by quickly. The hard-on capriciously disengorged itself during dessert—which was, I believe, orange-flavoured Jello jello. But, don't hold me to that—it might have been lemon-lime or cherry. (My friend Bernie toiled for General Foods and used to deliver me whole cartons of the awful powder. and every delivery would be accompanied by some variation of an editorial: "Isn't it amazing, true chemistry, the way you take the powder, and watch it turn into this beautiful transparent creation." He hadn't convinced me on the elegant science of the stuff, but, somehow, he had guilted me into habitually consuming it. Yes, I even had bad premonitions of being the sole survivor of a nuclear holocaust, meeting three years of nutritional needs in my basement with my six cases of Jello)' Then, to kill a little more time, I took another shower. Confidentially speaking, I wanted that erection back, just to reassure myself that by libido hadn't displaced its loyalties to Bernie's Jello jello. My mental efforts, as is usual in these things, were all in vain, and I planned various unique disasters that might soon afflict the General Foods executive. I pictured him embedded like a little slice of mushy banana in a giant cube of jello, a prisoner forever in his newly gelatinized womb.

With such unrepressed profundities on my mind, I climbed into my MG and headed downtown to Patricia's hotel. My tennis-partner's exhortations kept creeping into my head as much as I tried to shut them out. After all, she was very attractive and glamorous, and I didn't find the prospect of seducing her and gazing into those green eyes distateful in the least. Only, I wanted more, that was certain. I hoped very fervently that there would be more. And while I entertained such aspirations, Patricia's presence returned to me on cold and distant Bay Street, reassuring me; I was convinced that there would be a whole lot more before the night came to its tender close. And I was not at all sure that the experience would reach its finale between Sheraton sheets. Somehow, that thought wasn't so bad either.

Another duMaurier finished what an afternoon of heavy exertion had started. I felt calm and relaxed, my head clear.

The lobby of the Four Seasons Sheraton was never a bad place to be in Toronto. You could always count on viewing a few nice specimens of femininity or masculinity, and no matter what your designation according to the *Village Voice* shorthand, you could never help watching some special someone walk by who you wouldn't mind having for your very own that very night. Indeed, I was proud that for tonight I had my own alluring teacher awaiting my visit. I pondered a little as I lingered before the elevators, wondering what sort of lesson she had prepared for me.

She did not hurry to answer the door. When the latch finally and fatefully rotated, a rather new face of Patricia was revealed to me. Jeans, an old grey sweatshirt and bare feet. Hair let down, dropping freely over her shoulders. Still damp from a recent shower. Certainly a different Patricia from the glamoured and enamoured specimen who had shared afternoon coffee with me. My first surprise in a young evening. Perhaps selfishly, I hoped for many more.

"Oh, hello Neil," she smiled. "Come in."

I did so, found a chesterfield close at hand and approached it. Taking off my overcoat, I folded it neatly and placed it beside me. I felt a little tight in the suit I had donned, craved a drink of something strong to occupy my idle hands and expectant stomach.

"I'll be with you in a bit", she announced. "Please make yourself at home."

Then she disappeared into the bedroom. Not very hospitable at all. The formality continued but now, instead of enticing me, it bothered me. Figuring, her aim was to see if she could peeve me, I decided to do my best to make myself feel at home. A sortie to her small fridge produced half a bottle of Mouton-Cadet white, and I hestitantly poured myself a glass. Then, surveying my surroundings further, I discovered that for reading material, I was left with a choice between *Penthouse* and *Vogue*. Sighing, I realized that I was more in the mood to salivate over women in clothes during my wait. Did she want me to want her? Rather absent-mindedly, I gazed at ads for Saks, Maude Frizon, Gucci and various other posh New York, Parisian and Roman fixtures of fashion, not really feeling pressed or driven to know what was *de rigeur* in winter accessories in the coming month. The models, appearing cold and contrived despite their suggestive poses, returned to me a little of the excitement that Bernie's jello had dissipated. Gloria Vanderbilt taking over where General Foods had left off. But most of all, I wondered what Patricia would be wearing on our evening together, and enjoyably attempted to picture many of the fashions I had perused clothing her body. Matching the colours of Yves St. Laurent with her ever-seductive green eyes, searching for a perfect combination.

Finishing the magazine, I became a little bothered by her failure to reappear. Knowing she still had to dress, and feeling in the mood for a little investigative foreplay, I quietly approached her bedroom door, crouching down alongside it, hoping to dispel a little of the mystique that lay on the other

side. She was on the telephone. Anger began to seep into spaces I usually reserved for better emotions. Since I had not heard the phone ring, I supposed that she had made the call. Blatantly? I looked at my watch, bored by the flashing of a single digital read-out. Should I walk right in? No, that might ruin whatever she was trying to create. So I decided to retain my passive student's role, returning to the wine, chesterfield, and as yet unopened *Penthouse*.

Surely, you must agree, my lesson had already commenced. Of that I was most certainly aware. It had begun, inauspiciously, when she stepped lithely into my apartment, it had continued even when she'd left, and still it was not relenting. She had created a scenario that did not need to depend on her presence, that allowed her to disappear, to speak on the telephone with someone else.

As I skirted dangerously close to rationalization, she finally walked back into my presence, about an hour after withdrawal. With unintentional rudeness, she interrupted my careful reading of clandestine but fulfilling oral sex transpiring between a buxom stewardess and an oversexed used-car salesman in the washroom of an airborne DC-10. I regarded her lengthily, from head-to-toe and then completely retraced myself, ending at her innocent expression. She had not changed clothing, only put on a pair of red woolen socks.

"Which one are you reading?" she asked, acting very relaxed, as if dates always stood up their hosts for an hour. As if anything else would be some barbaric *faux pas*, practiced only by first-generation Toumanians.

"The blow-job in the airplane," I answered brusquely. She nodded in recognition, as if to inform me that she had read it also. "All I kept doing through it was picturing myself waiting at the door with a very impatient case of diarrhea."

"In the victim's role?" she inquired tersely.

"In a very small sense," I suggested. "I've come to believe over the years that we're all the victims of used-car salesmen. Sort of a punishment for our original sins. Don't you agree?"

She smiled at me then, probably her first genuine show of expression since we'd met. I liked that; it provided me with a sense of conquest.

"I thought we'd go for a walk somewhere," she sat down across from me. "You can drive wherever you'd like."

"Okay," I agreed, trying not to appear wounded. The expression I produced, though, was no doubt a questionable one.

"What surprises you?" she asked in a cold, overly solicitous voice. "The wait? My clothes? My plan?"

I watched her rise and slip into a pair of lace-up hiking type boots. A ski-jacket followed, completing her outdoors-y look. Putting on my own grey, woolen overcoat, I quietly followed even her most minute gestures with great scrutiny. Was she purposely abusing me? Attempting to prove that I really was hung-up? Or maybe she had been in one too may B&D (another shorthand: bondage and discipline—good for you, if you didn't have to ask) scenes where they wanted school-teachers for considerably different reasons.

"I think you're dressed very practically for a walk. The phone call doesn't bother me because I wasn't expecting it. My friend today thought that this would be just another seduction scene. I'm relieved that it isn't."

We left the room together, stepped into the crowded elevator and with a well-trimmed poodle attacking our ankles, headed for the hotel parking lot.

"Don't students ever like seduction scenes with their teachers?" she asked me, very candidly.

"Sure, some do," I nodded. "But on very specific terms. Not as two grown-up, consenting adults. Then there'd be no teacher, no student."

"I see," she acknowledged my explanation taciturnly.

We both closed off for a while. I opened the car door for her, watching her clamber into the small seat. The Beaches seemed just a little too romantic for a walk that night, so I chose Queen's Park instead, turning back up Bay Steet. It was already after ten, but I sensed the night was young, in its most delicate, formative stages. A certain harmony enticed me, borne of opposites, Neil feigning attractiveness; Patricia, concealing beauty—both sitting alongside in an MG which proudly and unabbashedly presented its sleek and enviable design to the drab pedestrians along the street.

"Not New York City out there," I apologized to her. "Welcome to a place of great, uneasy understatements."

"Toronto always strikes me as a shy young child," Patricia answered, gazing out of her side of the car. "That's why I appreciate it."

"I'm part of it, aren't I?" I continued. "I mean there's something early-Freudian in me like everything else here. A fear of stepping out too far and finding our own shit starting back at us."

Patricia laughed, turned and looked at me. "Do you ever get the urge to just shock everyone, to just start screaming somewhere, somehow knock everyone off their seats?"

"All the time," I answered, not even having to think about it. "I have this desire to get on the paging system of one of the big corporate buildings (towers they call them) downtown and just start repeating over and over again: 'World War Three has begun. World War Three has begun! Report to the main lobby in full military kit at the double.' But then I feel this awful shyness again. And the strange fear that nobody will laugh, and I'll be the embarassed three-year-old, gazing helplessly at the ness I just made in front of all my peers."

Again she laughed. A pure uninhibited laugh.

"Oh Neil. When's the last time you shit in your pants?" Yes, a laugh that had liberated itself from all the Freudian pitfalls, arose out of all the bad dreams, the monster nightmares and parental rapes, imagined or otherwise, bringing forth a fresh and clear view of whatever really lay in wait out there for us. Silently, I watched the Provincial parliament buildings arise before me, cuing the driver to turn off University Avenue and search for a parking space. MG wandering amidst the theological warmth of St. Michael's and Victoria College and not being refused. My gift. Somewhere into my university days, I had struck up a loose but well-respected pact with the great forces in the awesome beyond. I expended my energies pursuing girls in non-sectarian colleges, and, in turn, I was never callously refused a parking space in the more faith-loving of the university divisions.

Patricia energetically climbed out of the little sportscar, and had a snowball prepared within her woolen mittens by the time I had emerged from my side. Despite my warnings and implorals, she took careless aim, and I watched the soft, white projectile fly harmlessly by me. But, not admitting defeat, she had already commenced forming a second weapon, and this one landed uncomfortably close to another couple promenading down the street. For the good of the hard-working, unrecognized and unguarded pedestrians of my city, I immediately took it as my vested resonsibility to apprehend this rambunctious American emigre villain. Without regard to new suit or winter coat, newly filled with enthusiasm for a fresh cause, I quickly had her sprawling in the snow, still clutching a third untried snowball. Lying below me, she began a string of curses, but her words were not strong ones; soon they were replaced by a broad, tooth-revealing smile. But, greedy conqueror that I was, I mercilessly scooped up a handful of unpacked snow and let it fall over her cheeks and mouth. Again, the streets were safe.

As I stood victoriously above her, dwelling on superhero-type justice, legs planted slightly apart, she slowly struggled up. She then struck back, but I was stronger than her, and easily pushed her back down again. I ordered her to stop unless she

wanted more. Acknowledging defeat, she nodded. I wouldn't get to see what she could dish out herself.

"Not much of a gentleman, are you?" she smiled. "Putting snow in my face. Kind of a low thing to do."

"If your mascara runs," I warned, waiting to see how far she'd allow me to press victory, "I'm not driving you home. Nothing I hate more than crummy, cheap mascara."

"I'm not wearing mascara, Neil," she turned towards me, producing such a powerful impression with her voice and pitying glance that I was again humbled beside her, assured that all victories would not easily fall into my lap.

Slowly, lazily, we walked close together but without touching. Soon we were in the park, deep snow burying the fallen acorns of autumn, drifts of snow piling up under the numerous, now unoccupied park benches. Winter: the bums had departed and no-one really knew where they'd gone, no-one asked. Left also were the bold, tamed squirrels, black and grey, disappearing with their airborn competitors, the pigeons. Remembrance Day was months passed; no bright red wreaths remained to adorn the war memorial and rekindle the memories of idle passersby. And dreaming back many years, gone also was the girl I knew in university who walked across the park every day, taking her bright smile back to the forbidden wilderness of Fort Erie. To become a teacher also?

Rousing me, Patricia gently touched my arm. Told me that I was leaving her. Did I really have any better place to go? No, I did not want to desert her, disappear into my own thoughts and premonitions. Still, it was lonely, just the bare trees, the bare memories, the snow glittering in the small circles where the street-lights caught it. I felt the cold, felt the darkness. They urged me closer to Patricia, nearer to speech. And she was not adverse any longer about helping me. Choosing her own methods for bringing forth the night's intimacy. As she returned to age-proven paths - those footsteps which we habitually tread, and which are so much older than we ourselves. Softly asking me what I was thinking.

"I'm losing faith in this, Patricia," I shrugged. It was an answer that became increasingly difficult every time it was asked. Sometimes it was enough to just possess the reassurance that you were thinking at all. "Maybe one shouldn't be so vague about his wants."

"And why not?" she grasped my are again, forcing me to look at her, to gain a rapport with her rather than the night. "How else is one supposed to be surprised?"

"Sure, maybe you're right."

"Don't doubt me. I have an idea where we're going now."

"I don't," I replied softly.

I felt her hand squeeze harder, insistently drawing me closer. "Don't you enjoy that?"

"It's certainly a change," I admitted, surprised at how such thoughts could upset me, make me look back and question my life.

"You like being in control?" she smiled, keeping up her part, staying one step ahead of me. I guessed that I liked that, felt it as an important part of her charm over me. It wasn't difficult to relinquish initiative over to her. For I felt content just to drift through the snow, feeling its unresisting give beneath me, allowing me to trudge slowly onwards. Likewise, I didn't mind if I opened my can of thoughts to Patricia, granting her the dubious privilege of teasing them apart like a mass of sticky hairs, searching for the one that would surprise both of us simultaneously. It was a new game for me, I was naturally naive to its deeper nuances, but I didn't feel at all threatened by it. Knowing that it was her hand on my arm, it was not in the least troubling to doubt what previously I had taken for granted, like the fact that I had to be in control. The challenge was in producing an answer, somehow summing up all those muddled thoughts into some sort of arithmetric mean.

"Sometimes ... you know, it really doesn't matter," I responded vaguely to her question on control. "Do I like it? It's just usually the way things go."

"Well," she surmised, "maybe you're finally sick and tired of that way. Like it's time for something different. You know. A new approach."

"You're very perceptive," I complimented her.

"How so?"

"I mean ... that's the most I hoped from this whole thing — that someone else would be able to assume the initiative, that for once in my life I could feel like it was me being led. Like it was me proceeding unawares to someone else's destination."

"Is life really that bad Neil? Haven't you ever been shocked; surprised?"

"The funny thing was that life never lived up to the promise that the personal columns foretold." I looked down on to the ground of Harbord Street. Was she a kind of promise thrown into my life? To be kept or broken? For a second I was afraid; my hand found its way to the small of her back. Touching eased out new words, new thoughts. "Life was kind of predictable. I should have just struck with Ask Andy. The world remained too simple, much as Andy had originally described it."

She shook her head, smiling, "Who is this Andy?"

"Nobody." I searched for new contours along her back, landmarks for possible future navigations. "Oh, really somebody. A semi-mythical being. A kind of condensed universal consciousness. Or at least a twentieth-century Apollo. Who knew the answer to everything."

She turned, stood in front of me, barring my path. We looked at each other under the turkey's head of Robart's library. Gobble, gobble. *There was a young Turk/ Did fellatio on Captain Kirk/ He went dobble bobble and then gobble gobble/ And he sucked it up with a smirk.* Oh, Patricia. How she made me fear the seriousness. How she called me back to her. As she considered my Andy, I gazed at her, admired her.

"How boring, Neil." Andy apparently hadn't thrilled her.

I let my shoulders drop, and stood motionless before her. The cold had painted new colour on to her cheeks; she seemed to belong now to the night.

"That's what I thought when I was eight. Just how boring Andy was."

"And what do you think now?"

"Now — " I smile thoughtfully. "Now I think Andy doesn't know everything. I think he fucks the same way every night. I think he dreams of weekends in Toledo. I think that he's old and decrepit, and that at every breakfast, he still eats Kelloggs children cereals and stares at the pictures on the box between spoonfuls."

"You don't like him much," She started to walk again, backtracking towards the car. "Do you?"

"No. It was a teacher that made me read him. She was upset because I was reading the companions-wanted columns. But I wouldn't read Ask Andy. I just refused. I was convinced that I was about to grow up into a world of secret, clandestine and highly original and varied love. It was my first rebellion."

"Were there many more?"

"Sure. There was M. Lorch, the limerick-writer I attempted to epitomize. Another teacher gave me shit for that."

"A teacher again," she smile knowingly.

"Oh, it was mostly teachers. But they were always cute rebellions. Nothing malicious or bitter. I guess that I was doing a lot of attention-seeking."

"That's interesting. And did the attention come your way?"

The question. And then that look. Piercing through me in a way that made me incapable of considering lies, exaggerations.

"Sort of," I answered, sifting through old dreams and memories. "In an unfulfilled kind of way. There was always the hint of some greater promise. But it always ended there."

"A broken promise, then?"

"Sure, but I made it that way. I was the architect, and they were the unwitting accomplices."

"Were you?" she asked consolingly, again close to home with her gentle incisiveness. "Maybe they weren't all so unwitting. Maybe they misjudged their effect. Dealing with an impressionable student struggling to search out his turn-ons in life."

"I think they did," I finally decided in retrospect. "I felt ignored ultimately. Caught in a game that never proceeded past the seventh inning."

Again we were back in Queen's Park. It felt like an escape somehow. As we crossed its winding paths, out of range of the street illumination, I could sink again into the darkness. Allowing my arm to finally complete its half-circle and close itself around Patricia. I felt confused, dulled by so much conversation. Now, I craved only quiet, to be as silent as the park, as noiseless as Patricia's frosty breaths. Slowly, we approached my car, nearing that moment when we would have to return to the hotel. There was an emptiness that made me fear that arriving, for I knew that I possessed no ideas, no initiative within. Only the unfulfilled suggestion of unlived joys coming to life in the shadow of Patricia's smile. How I longed to again gaze into those eyes, like a mute and sentimental autistic, leaving all the words behind. What funny sensations. Would Andy understand?

"You know what, Neil..." She aroused me from my darkened thoughts.

"What?"

"I think that you've helped me to find an answer. Why don't we head back now. It's getting cold."

Oh, it was even reassuring to know that she felt cold also. There were times I felt as if I was losing her; spending the night in conversation with some glamorous Creeds or Harridges mannequin. But she was there. And together, we ran the last hundred yards to the car. Strange excitement. As if the mannequin has been coaxed to life, struggling to throw one plastic, high-heeled foot out of the plate glass. Coming to me. I don't know why, but now that it was over I felt as if I had confessed something I had always wanted to say. I felt pleasurably relieved, more emptied than I ever could remember. For so long I'd felt only a fleeting faith in words, in admitting anything close to self. But Patricia skillfully had changed my mind, shown me that if one asked the right questions it might be different — no more messes, no more preFreudian gesticulations. I said goodbye to all those glorious phases, closing the bathroom door on anal, kissing oral farewell, giving genital its final midnight stoke.

Yes, you've stuck by me this far, watched the lesson slowly realize itself. And the ony awkwardness, the only bad blotch in the unfolding canvas was my own doubt, my hesitation in expecting anything really good or significant to arise out of the night. Still I was able to relax a little on the drive back, enjoying the soothing silence punctuated by the few cars passing by the other way.

It was after midnight when we arrived back at the hotel. Irish coffees at La Serre, the posh hotel bar, warmed us up, readied us for the developing blossoming forth of the night. Still, hesitation mixed uneasily with anticipation like a poorly-poured drink going down as we again entered her suite. A 20th-century Theseus, I stepped gently through this mental maze, waiting to encounter my very own Minotaur, presumably stalking about somewhere within my brainstem.

"Can I desert you again, Neil," she asked softly, approaching the bedroom as she spoke. "I want to throw off these rags. Kind of disgusting, aren't they?"

I nodded, and she disappeared once more. Lost behind that now formidable door. No longer was I a spy of the night, hunched close to doorways. A true Bogie, knowing when to spy, when to love, when to remit. How much I wanted to decorate a Four Seasons washroom with one of M. Lorch's choice, topical works. Instead, I sank back into the chesterfield, again losing myself in the unadulterated joys of one foturnate used-car salesman. Hardly been used, I waited for him to admit, just a few times by an old lady with dentures who couldn't last longer than three minutes. But he didn't. Just braced his hands on the side of the aluminum toilet-seat, and enjoyed every second of oral stimulation. Bastard. May all his chevvies have lost their fenders in some Buffalo snow-squall.

When she reappeared, her face and clothes revealed yet another fresh presentation. Her expression was stern. She was dressed in a grey tailored skirt and co-ordinated blazer, a thin gold chain around her neck. Walking confidently in black pumps, she moved a small chair in front of her desk. And with an economical motion of her arm, she gestured me to take my seat there. I did, and watched her sit before the large desk.

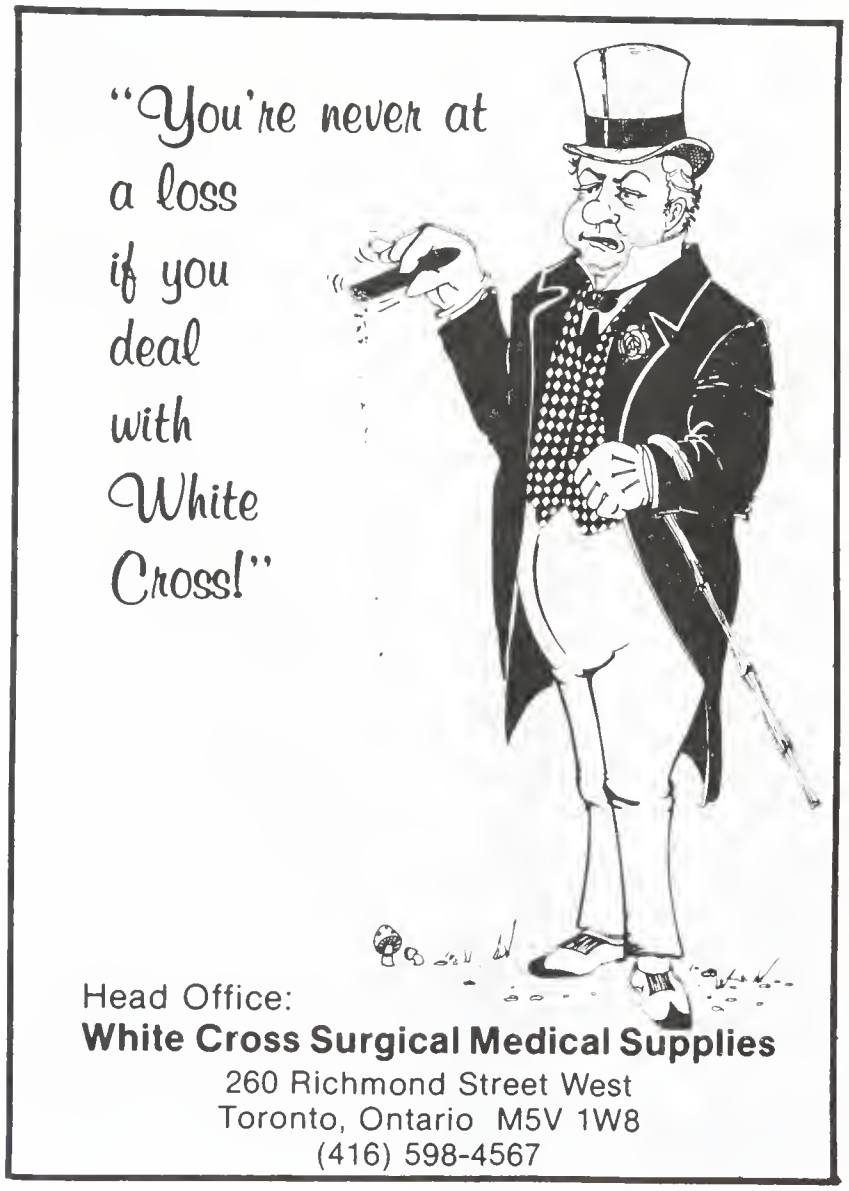
"I don't think," the class began, "you wanted any of that other stuff. Like so many others, you were allured by the thought of having your teacher - so unattainable and distant at her desk. The sexy disciplinarian. Who only *you* might bring down to earth. And so you were just prepared to enact your fantasy, trying to act it out with me the unsuspecting accomplice."

"Yes, that sounds close to home," I answered humbly.

She nodded, then looked away from me, down to some stray papers on her desk.

"This time we'll do it properly, shall we, Neil?" she suggested dryly, without looking up.

My silence was my agreement. As I waited for her to look up. Was I ashamed? I had to let go, to accept this drop in male status. Could I really be a prude to what I so badly wanted? Was I too used to carefully prepared lessons that ended without endings? To games commenced, and then abandoned for fear of treading through unknown places? Too many promises that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had died amidst the insecurity of their own usefulness. I wanted this one to keep on going, to really end. For once I wanted to feel different, to be able to look at everyone else in a crowded subway, glare down at them and boast, "I really did finish something." While their only endings were in their dreams.

I wanted to tell my teacher about all our artificial endings, about marriage or intercourse or death or divorce or the night's last cigarette. I wanted to ask her if there could be real endings.

From childhood I had voraciously read the personals. All those promising beginnings. That, in itself, had come to typify for me the human condition — failed, unconsummated, the fear of the unknown and different that had caused the disbanding of so many once promising beginnings. Might the two of us finally break the pattern, go beyond that.

I was willing to play out my role, convincingly, with faith and the student's untainted interest. I was happy to reconsider my convictions, to question whether knowledge could only be obtained alone in fully darkened rooms. Yes, I was giving the teaching profession one more chance. But just one more.

As Patricia looked up again. Facing my longer eyes. And turning me once again. Into a nervous student. Exhaling endless amounts of air, long, expanded breaths of anticipation ... for yet ... another first day of school. □

Harry Zeit

JABBERMUSIC

(with apologies to Mr. Carroll)

'Twas Mozart and the Haydn Grieg
Did Strauss and Schubert in the Wolf.
All Schumann were the Debussy
And the Rimsky-Korsakov.

"Beware the Mendelssohn, my son!
The jaws that bite, the claws that catch.
Beware the Bizet bird and shun
The Beethoven Offenbach!"

He took his Dvorjak blade in hand
And long the Schoenberg foe he sought
So rested he by the Smetena tree
And he stood a while in thought.

And as in Handel thought he stood
The Mendelssohn with eyes of flame
Came Gershwin through the Chopin wood
And Lalo'd as it came.

One, two! One, two! And through and through
The Dvorjak blade went Bruch and Bach
He left it dead and with its head
He went Khatchaturian back.

"And hast thou slain the Mendelssohn?
Come to my arms my Gounod boy
Oh, Verdi day! Ravel, Faure!"
He Wagnered in his joy.

'Twas Mozart and the Haydn Grieg
Did Strauss and Schubert in the Wolf.
All Schumann were the Debussy
And the Rimsky-Korsakov.

David Malkin

CANTOS

I It is gone now, the day
the foul rag-and-bone shop was sold.
The Muses locked up; I read the News
and awaited the last pick-up:
Sisyphus rolled the stone away.

II Beware
the pigeons of death
and love,
there is a billboard
with car
and girl
and promise of plenty. I
juxtapose Colour T.V.
against
imagination
and me,
and ponder the life
of an
Escalator
between
Commercials. O love
the symmetry of the couch excites me Come
it is done and my history of smoking
predisposes me. Beware
the pigeons of death
and love...

III And, I thought, I should conclude.
I rolled the stone away and
remembered,
here a god had risen;
the pattern of the linen was left behind.

Before I could say anything
the metaphor of art moved,
and moved me
to disturb the dust in the old shop where I stood,
and see
the faces pressed against the window,
of children under stone
waiting
to be born again.

Nigel N. Jagan

Capsule Book Reviews

Shocktrauma
by John Franklin and Alan Doelp (St. Martin's Press, New York. 244pp).

If the President of the United States were seriously injured, he would not be taken to the nearest hospital. Instead, the Secret Service would helicopter him to Shocktrauma. Shocktrauma is the Maryland Institute for Emergency Medical Services Systems, and the title of this dramatic true story by two reporters for the Baltimore *Evening Sun*.

Doelp and Franklin describe how the Maryland Shocktrauma unit was the dream of heart surgeon R. Adams Cowley. Cowley believed that the average hospital emergency room was not adequate to save victims of severe trauma, and set out to build a system to deal specifically with this type of patient. The bitter political and medical battles that had to be fought to establish the Shocktrauma unit make interesting reading.

The authors also tell the story of the people of Shocktrauma: the patients, nurses, orderlies, and doctors. Two characters, a surgeon and a nurse, are followed closely to give the reader a clear picture of the pressures, rewards, and diappointments of this kind of work.

Unfortunately, to convey intimacy and excitement, the authors employ a florid style of writing. Particularly for those readers with a medical background, the overly dramatic narrative is occasionally discomfiting. Nevertheless, the book is diverting and is a fun, fast read.□

Ted Colapinto

Opting Out Of Medicare: Private Medical Markets in Ontario
by A.D. Wolfson & C.J. Tuohy (University of Toronto Press, 1980, 248pp.)

"To be or not to be"... in OHIP, that is the question. As young energetic medical students whose average income rarley provides for the finer necessities in life, why should we be concerned?

Opting Out of Medicare does more than examine trends in patient billing during the 1970's. It is a "window on the political economy of medical care". For the future physician, it provides an interesting perspective on the practice of medicine today and tomorrow.

For example, while opted-out docters have smaller patient loads, they also provide more anaesthetic services, injections and annual physicals. As well, their patients are generally healthier, wealthier and more highly-educated. Yet, their health care costs are ⅓ less.

In short, this book may not end up on your Community Health reading list, but is at least worthy of a short evening's browsing.□

Elliott Weiss

Harrison's Principles of Internal Medicine
Isselbacher, et al., eds. (McGraw-Hill Book Co., 1980.)

The first 5 editions of this epic work were compiled by the late Tinsley R. Harrison in the early '50s. Now in its 9th edition, it has been expanded to over 2000 pages -- this is of importance, as the book can no longer fit vertically in many bookshelves. If this seems inconvenient, one can alternatively use it as a (rather hard) pillow, enabling one to learn the text by osmotic diffusion at the rate of 5 pages per night.

Because of the many gigantic strides forward in medical knowlede in the past 3 years, new sections have been added and numerous revisions made. Forget about reading up on them -- they can be neatly summarized as follows:

1) Diseases previously labelled as *idiopathic*, *primary* or *essential* are now *autoimmune*.
2) Chronic, degenerative disease of "unknown etiology" are caused by mystical, non-culturable *"slow viruses"*; e.g., MS, Paget's disease.
3) *Cancer* is caused by a combination of the two -- i.e., a slow virus in a host with altered immune function.
4) All of the above (and more) are treatable by *corticosteroids*.
5) The final common pathway for the mechanism of life is *cyclic AMP*.

We would highly recommend this text for our hypochondriacal readers. There are hundreds and hundreds of diseases (many with actually 1 or 2 documented cases since Creation). You will discover ones beyond your most fearful flights of fancy -- and many of these diseases are fatal! Well worth the effort!□

Doreen Yee

The Cultural Crisis of Modern Medicine

John Ehrenreich, ed.
(Monthly Review Press, 1978,300pp.)

Modern medicine, it seems, has not been the benevolent, apolitical, public-spirited institution one might conceive it to be. We have here a collection of sociological and political essays by a number of radical Seventies critics of medicine as practised in the U.S. and the West. Editor Ehrenreich distinguishes the "political-economic critique" of medicine -- which contends that medical care, a basically desirable commodity, is not equally available to all socio-economic groups -- from the "cultural critique", which challenges the practice of medicine itself. Ehrenreich cites racial, sexual and class prejudices as having permeated contemporary medicine. The book's lead essay,*Medicine and Social Control*, furthermore provides a careful analysis of how medicine has beome an expanding social and cultural force in today's society. Irving K. Zola's essay echos Ehrenreich's concern about the increased dependence of both society and the individual on medicine. At the same time, both the practice and the practitioners of medicine, while not a conspiracy, effectively serve to enforce the status quo. Ehrenreich and Zola are meticulous in their dissection of medicine's institutional functions in Western society.

The feminist spirit endures in several essays which denounce the medical profession's patriarchal dominance of women with regard to gynecology, contraception and child-rearing. Of primary interest is Doris Haire's *The Cultural Warping of Childbirth*, which charges that the procedures of modern hospital deliveries are based on a cultural mind-set (which treats parturition as a pathologic process), not on scientific evidence. There are also other essays which describe historical examples of medicine in the service of Western colonialism and exploitative interests.

Being chiefly of academic interest, this book will heighten your awareness of the negative social impact of medicine in the 20th century. □

Robert Jin

THE IDIOT SAVANT

He can recite all of Shakespeare
with the words in the correct order

He can discuss all of human physiology
using one iota of his gargantuan brain

He can verbalize all details
of any subject to anyone interested

But, if he's so smart

Why can't he stop the saliva from
drooling out of
the corner of
his mouth?

Rob Hegele

(continued from page 123)

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We would also like to extend our thanks to Alan Flancman and Visual Media Productions and to our printers, Metrospan, for their fine work.

Editing this year's Journal has been a great pleasure for us, and we wish next year's editor and staff a similar experience.

Finally, we would like to thank you, our reader--we hope that you have enjoyed the 1980/81 Journal.

Anne Summers 8T2
Robert Jin 8T2